

* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 12:38:38 ON 24 SEP 2003

=>

Uploading

THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE

Do you want to switch to the Registry File?

Choice (Y/n):

Switching to the Registry File...

Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	0.42

FILE 'REGISTRY' ENTERED AT 12:39:29 ON 24 SEP 2003

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 23 SEP 2003 HIGHEST RN 591719-82-3

DICTIONARY FILE UPDATES: 23 SEP 2003 HIGHEST RN 591719-82-3

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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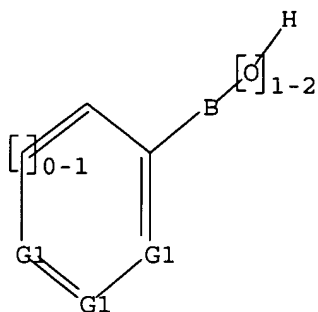
Uploading 10085368.1

L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 C,O,S,N,CH,NH

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 12:39:45 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 1007 TO ITERATE

99.3% PROCESSED 1000 ITERATIONS 50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 18237 TO 22043
PROJECTED ANSWERS: 4156 TO 6074

L2 50 SEA SSS SAM L1

=> s l1 sss full

FULL SEARCH INITIATED 12:39:55 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 19899 TO ITERATE

100.0% PROCESSED 19899 ITERATIONS 5071 ANSWERS
SEARCH TIME: 00.00.02

L3 5071 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	148.15	148.57

FILE 'CAPLUS' ENTERED AT 12:40:04 ON 24 SEP 2003
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FILE COVERS 1907 - 24 Sep 2003 VOL 139 ISS 13
FILE LAST UPDATED: 23 Sep 2003 (20030923/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13

L4 8602 L3

=> s 14 and benzene

L5 734 L4 AND BENZENE

=> s 14 and toluene

L6 0 L4 AND TOULENE

=> s 14 and phenyl

L7 2038 L4 AND PHENYL

=> s 15 and 17

L8 308 L5 AND L7

=> s 14 and pyridine

L9 1081 L4 AND PYRIDINE

=> s 14 and pyrimidine

L10 332 L4 AND PYRIMIDINE

=> s 14 and pyridazine

L11 81 L4 AND PYRIDAZINE

=> s 18 and 19 and 110 and 111

L12 5 L8 AND L9 AND L10 AND L11

=> d 112 fbib hitstr abs total

L12 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:676015 CAPLUS

DN 137:201315

TI Heteropolycyclic compounds, particularly pyridyl- and **phenyl**-substituted 1,2,4-oxadiazoles and analogs, and their use as metabotropic glutamate receptor antagonists for inhibiting neuronal damage

IN Slassi, Abdelmalik; Van Wagenen, Bradford; Stormann, Thomas M.; Moe, Scott T.; Sheehan, Susan M.; McLeod, Donald A.; Smith, Daryl L.; Isaac, Methvin Benjamin

PA Can.

SO PCT Int. Appl., 272 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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 WO 2002068417 A3 20021114
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 US 2001-269847PP 20010221

PATENT FAMILY INFORMATION:

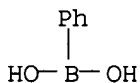
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FAN 2003:222333				
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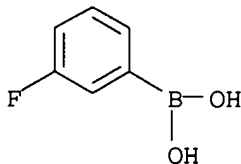
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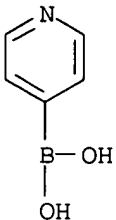
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 10365-98-7, 3-Methoxyphenylboronic acid 30418-59-8,
 3-Aminophenylboronic acid 150255-96-2, 3-Cyanophenylboronic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (precursor; prepn. of pyridyl- and **phenyl**-substituted
 oxadiazoles and analogs as metabotropic glutamate receptor antagonists
 for inhibiting neuronal damage)
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 CN Boronic acid, phenyl- (9CI) (CA INDEX NAME)



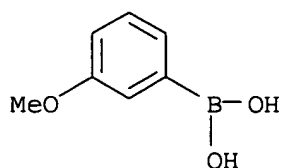
RN 768-35-4 CAPLUS
 CN Boronic acid, (3-fluorophenyl)- (9CI) (CA INDEX NAME)



RN 1692-15-5 CAPLUS
 CN Boronic acid, 4-pyridinyl- (9CI) (CA INDEX NAME)

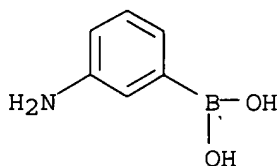


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 CN Boronic acid, (3-methoxyphenyl)- (9CI) (CA INDEX NAME)



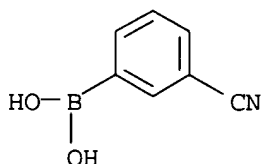
RN 30418-59-8 CAPLUS

CN Boronic acid, (3-aminophenyl)- (9CI) (CA INDEX NAME)

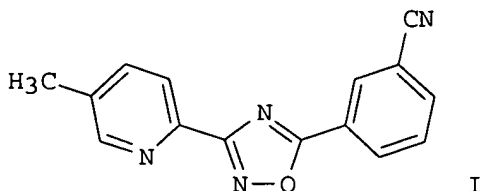


RN 150255-96-2 CAPLUS

CN Boronic acid, (3-cyanophenyl)- (9CI) (CA INDEX NAME)



GI



AB The invention provides compds. and pharmaceutical compns. that act as antagonists at metabotropic glutamate receptors, and that are useful for treating neurol. diseases and disorders. Methods of prepg. the compds. also are disclosed. The compds. exhibit a high degree of potency and selectivity for individual metabotropic glutamate receptor subtypes, notably mGluR5. In particular, medical conditions assocd. with metabotropic glutamate receptors and therefore targeted by the invention compds. include stroke, head trauma, anoxic injury, ischemic injury, hypoglycemia, epilepsy, pain, migraine headaches, Parkinson's disease, senile dementia, Huntington's Chorea, and Alzheimer's disease. The invention provides methods of treating diseases assocd. with excitatory activation of an mGluR Group I receptor, and of inhibiting neuronal damage

caused by excitatory activation of an mGluR Group I receptor, specifically wherein the mGluR Group I receptor is mGluR5. In one aspect of the invention, the antagonists may be represented by the general formula Ar1-L-Ar2, wherein Ar1 is an optionally substituted heteroarom. moiety, and Ar2 is an optionally substituted **benzene** ring. The L moiety is a group that not only covalently binds to the Ar1 and Ar2 moieties, and which facilitates adoption of the correct spatial orientation of Ar1 and Ar2, but also itself may interact with the protein, to effect receptor binding. In one embodiment of the invention, L is selected from the group consisting of -NH-, -S-, -O-, -CO-, -CONH-, -CONHCH2-, -CH2CONH-, -CNHNH-, -CNHNHCH2-, -C=NOCH2-, -CH2NHCH2-, -CH2CH2NH-, -NHCH2CO-, -NHCH2CHOH-, -NHCNHNH-, -NHCONH-, cyclopentane, cyclopentadiene, furan, thiofuran, pyrrolidine, pyrrole, 2-imidazoline, 3-imidazoline, 4-imidazoline, imidazole, pyrazoline, pyrazolidine, imidazolidine, oxazole, 2-oxazole, thiazole, isoxazole, isothiazole, 1H-1,2,4-triazole, 1H-1,2,3-triazole, 1,2,4-oxathiazole, 1,3,4-oxathiazole, 1,4,2-dioxazole, 1,4,2-oxathiazole, 1,2,4-oxadiazole, 1,2,4-thiadiazole, 1,2,5-oxadiazole, 1,2,5-thiadiazole, 1,3,4-oxadiazole, 1,3,4-thiadiazole, 1H-tetrazole, cyclohexane, piperidine, tetrahydropyridine, 1,4-dihydropyridine, **pyridine**, **benzene**, tetrahydropyran, 3,4-dihydro-2H-pyran, 2H-pyran, 4H-pyran, tetrahydrothiopyran, 3,4-dihydro-2H-thiopyran, 2H-thiin, 4H-thiopyran, morpholine, thiomorpholine, piperazine, **pyridazine**, **pyrimidine**, pyrazine, 1,2,4-triazine, 1,2,3-triazine, 1,3,5-triazine, and 1,2,4,5-tetrazine. In another embodiment of the invention, Ar1 is selected from the group consisting of Ph, benzyl, naphthyl, fluorenyl, anthrenyl, indenyl, phenanthrenyl, and benzonaphthenyl, and Ar2 is selected from the group consisting of thiazoyl, furyl, pyranyl, 2H-pyrrolyl, thienyl, pyrrolyl, imidazoyl, pyrazoyl, pyridyl, pyrazinyl, pyrimidinyl, pyridazinyl, benzothiazole, benzimidazole, 3H-indolyl, indolyl, indazoyl, purinyl, quinoliziny, isoquinolyl, quinolyl, phthaliziny, naphthyridinyl, quinazoliny, cinnoliny, isothiazolyl, quinoxaliny, indoliziny, isoindolyl, benzothienyl, benzofuranyl, isobenzofuranyl, and chromenyl. Several hundred specific examples are individually prepd. and/or claimed. A variety of intermediates were also prepd. For instance, 5-methylpyrid-2-ylamidoxime was prepd. from 2-bromo-5-methylpyridine by Zn- and Pd-complex-mediated cyanation (56%) and reaction of the resulting nitrile with NH2OH.HCl (60%). Cyclization of the amidoxime with 3-cyanobenzoyl chloride (86%) gave invention compd. I. In a bioassay for mGluR5 antagonism in primary astrocyte cultures from rats, the invention compds. had IC50 values in the range of 11 to 9140 nM.

L12 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:220564 CAPLUS

DN 136:263177

TI Preparation of pyridazinones and triazinones exhibiting excellent inhibitory activities against AMPA receptor and/or kainate receptor

IN Nagato, Satoshi; Kawano, Koki; Ito, Koichi; Norimine, Yoshihiko; Ueno, Kohshi; Hanada, Takahisa; Amino, Hiroyuki; Ogo, Makoto; Hatakeyama, Shinji; Ueno, Masataka; Groom, Anthony John; Rivers, Leanne; Smith, Terence

PA Eisai Co., Ltd., Japan

SO PCT Int. Appl., 174 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

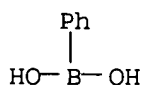
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APPLICATION NO. DATE

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      2-Methoxyphenylboronic acid 17933-03-8, m-Tolylboronic acid
    RL: RCT (Reactant); RACT (Reactant or reagent)
      (prepn. of pyridazinones and triazinones exhibiting excellent
      inhibitory activities against AMPA receptor and/or kainate receptor for
      treatment or prevention of acute or chronic neurodegenerative diseases)
    RN  98-80-6  CAPLUS
    CN  Boronic acid, phenyl- (9CI)  (CA INDEX NAME)

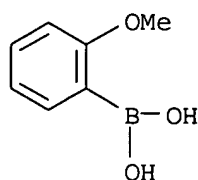
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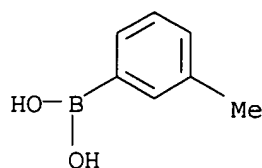
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CN  Boronic acid, (2-methoxyphenyl)- (9CI)  (CA INDEX NAME)

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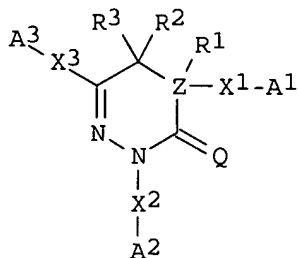


RN 17933-03-8 CAPLUS

CN Boronic acid, (3-methylphenyl)- (9CI) (CA INDEX NAME)



GI



I

AB The title compds. [I; wherein A1, A2 and A3 are each independently C3-8 cycloalkyl, C3-8 cycloalkenyl, a 5- to 14-membered nonarom. heterocyclic group, a C6-14 arom. carbocyclic group, or a 5- to 14-membered arom. heterocyclic group, any of which may be substituted; Q is O, S, or NH; Z is C or N; X1, X2 and X3 are each independently a single bond, optionally substituted C1-6 alkylene, optionally substituted C2-6 alkenylene, optionally substituted C2-6 alkynylene, NH, O, NHCO, CONH, SO0-2, or the like; R1 and R2 are each independently hydrogen or optionally substituted C1-6 alkyl, or alternatively R1 and R2 may be united in such a way that CR2-ZR1 forms C:C; and R3 is hydrogen, optionally substituted C1-6 alkyl, C2-6 alkenyl, or C2-6 alkynyl, or alternatively R3 may unite with any atom on the ring A1 or A3 to form together with the atom an optionally substituted C5-8 carbocycle or an optionally substituted 5- to 8-membered heterocycle] or salts thereof, or hydrates of both are prep'd. These compds. do not inhibit N-methyl-D-aspartic acid (NMDA) receptor but they are excellent inhibitors of .alpha.-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA) receptor and/or kainic acid receptor. They are useful for the prevention or treatment of acute neurodegenerative diseases, acute cerebral vascular disorders, head injury, spinal cord injury, nerve disorders caused by low oxygen or sugar level, chronic neurodegenerative diseases, Alzheimer's disease, Parkinson's diseases, Huntington's chorea, amyotrophic lateral sclerosis, spinocerebellar

degeneration, epilepsy, hepatic encephalopathy, peripheral nerve disorder, Parkinson's syndrome, spastic hemiplegia (paralysis), pain, neuralgia, schizophrenia, anxiety, drug dependence, nausea, vomiting, urination disorder, eye sight disorder caused by glaucoma, hearing disorders caused by antibiotics, food poisoning, infectious encephalomyelitis (including HIV encephalomyelitis), cerebral vascular dementia, dementia caused by meningitis, and nerve diseases. They are also used for treatment or prevention of demyelinating diseases including encephalitis, acute disseminated encephalomyelitis, multiple sclerosis, acute multiple neuritis, Guillain-Barre syndrome, chronic inflammatory demyelinating multiple nerve disorders, Marchifava-Bignami disease, central bulbopontine breakdown, optic nerve myelitis, Devic's disease (neuromyelitis optica), Baló's disease, HIV myelopathy, HTLV myelopathy, progressive white substance encephalopathy or secondary demyelinating diseases (including central nervous system erythematodes, tuberous multiple polyarteritis, Sjögren syndrome, sarcoidosis, or cerebral angiitis). Thus, to a soln. of 75 mg 2-(2-iodophenyl)-4-(3-pyridyl)-2,3-dihydro-5H-[1]benzopyrano[4,3-c]pyridazin-3-one in 2 mL 1-methyl-2-pyrrolidone were added 55 mg Zn(CN)₂ and 5 mg tetrakis(triphenylphosphine)palladium and stirred at 100.degree. for 1 h to give 34 mg 2-(2-cyanophenyl)-4-(3-pyridyl)-2,3-dihydro-5H-[1]benzopyrano[4,3-c]pyridazin-3-one (II). II inhibited the AMPA-induced influx of Ca into rat fetal cerebral cortex nerve cells with IC₅₀ of 0.02 μ M.

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:565039 CAPLUS
DN 135:153111
TI Preparation of aryl-amidines and derivatives, and prodrugs thereof as factor Xa inhibitors
IN Kang, Myung-Gyun; Park, Doo-Hee; Kwon, Oh-Hwan; Kim, Eunice Eun-Kyeong; Hwang, Kwang-Yeon; Heo, Yong-Seok; Park, Tae-Kyo; Lee, Tae-Hee; Moon, Kwang-Yul; Park, Jong-Woo; Chang, Hye-Kyung; Lee, Sang-Koo; Lee, Sun-Hwa; Park, Su-Kyung; Lee, Sung-Hack; Park, Hee-Dong
PA LG Chem Investment Ltd., S. Korea
SO PCT Int. Appl., 177 pp.
CODEN: PIXXD2

DT Patent
LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001055146	A1	20010802	WO 2001-KR13	20010104
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG KR 2000-4458 A 20000129 KR 2000-6354 A 20000211 KR 2000-7487 A 20000217 KR 2000-7489 A 20000217				
EP 1254136	A1	20021106	EP 2001-901571	20010104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

			KR 2000-4458	A 20000129
			KR 2000-6354	A 20000211
			KR 2000-7487	A 20000217
			KR 2000-7489	A 20000217
			WO 2001-KR13	W 20010104
JP 2003523356	T2	20030805	JP 2001-561005	20010104
			KR 2000-4458	A 20000129
			KR 2000-6354	A 20000211
			KR 2000-7487	A 20000217
			KR 2000-7489	A 20000217
			WO 2001-KR13	W 20010104
US 2003065176	A1	20030403	US 2002-181975	20020724
			KR 2000-4458	A 20000129
			KR 2000-6354	A 20000211
			KR 2000-7487	A 20000217
			KR 2000-7489	A 20000217
			WO 2001-KR13	W 20010104

OS MARPAT 135:153111

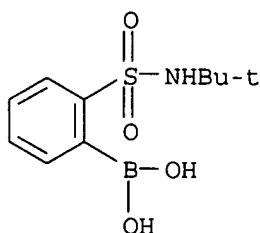
IT **150691-04-6P**, 2-tert-Butylaminosulfonylphenylboronic acid**168618-42-6P**, 2-Methylthiophenylboronic acid **183000-60-4P****352615-79-3P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; prepn. of aryl-amidines and derivs., and prodrugs thereof as factor Xa inhibitors and anticoagulants for treatment of thrombosis disorders)

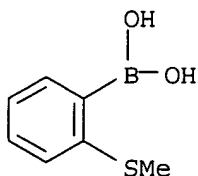
RN 150691-04-6 CAPLUS

CN Boronic acid, [2-[[[(1,1-dimethylethyl)amino]sulfonyl]phenyl]- (9CI) (CA INDEX NAME)



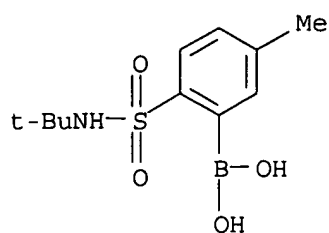
RN 168618-42-6 CAPLUS

CN Boronic acid, [2-(methylthio)phenyl]- (9CI) (CA INDEX NAME)



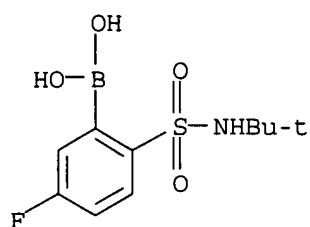
RN 183000-60-4 CAPLUS

CN Boronic acid, [2-[[[(1,1-dimethylethyl)amino]sulfonyl]-5-methylphenyl]- (9CI) (CA INDEX NAME)

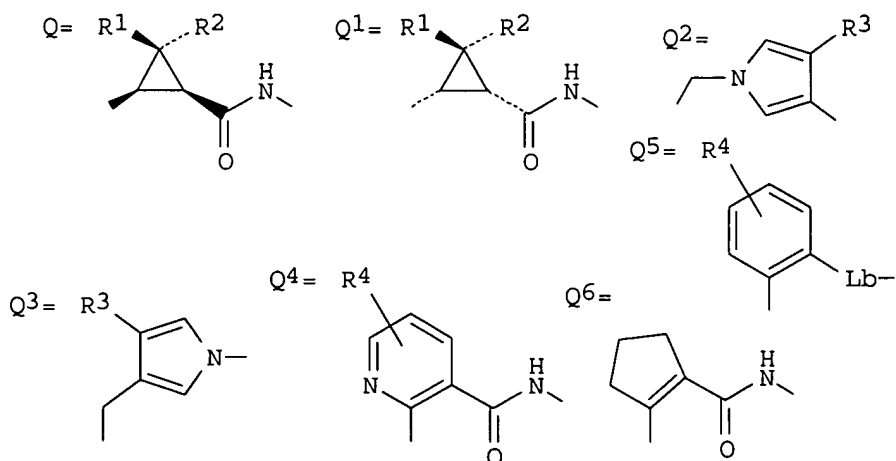


RN 352615-79-3 CAPLUS

CN Boronic acid, [2-[[[(1,1-dimethylethyl)amino]sulfonyl]-5-fluorophenyl]-(9CI) (CA INDEX NAME)



GI



AB The aryl-amidines, particularly amidinoaryl-cyclopropanes, amidinoarylmethyl-pyrroles, amidinoaryl-**benzenes**, amidinoaryl-**pyridines**, or amindonoaryl-alanines, represented by formula G-A(D)-A-L-P[(X)_n]-Q(Y)Z [wherein Ar = **benzene**, **pyridine**, thiophene, naphthalene, isoquinoline; G = R, F, Cl, Br, iodo, cyano, OR, O₂CR, CO₂R, CONR₂ (wherein R = H, linear, branched, cyclic or branched cyclic C₁-10 alkyl); A = Q-Q₆, CH₂ CHR₅CONH, CH₂CHR₅CH₂O, CH₂CHR₆NHCO [wherein R₁, R₂ = F, Cl, Br, iodo, R, CH₂O R, CH₂O₂CR, CO₂R, CONR₂,

CON(CH₂)_m (m = 2-7), CO-morpholine, etc.; R₃ = group listed in R₂, CONH(amino acid or its ester or amide), etc.; R₄ = F, Cl, Br, iodo, cyano, OR, R; R₅ = NR₂, NR(COR), NR(CH₂)_{m1} CO₂R (m₁ = 0-3), etc.; R₆ = CO₂R, CONR₂, CH₂OR; Lb= CONH, CONHCH₂, CH₂NHCO, NHCONH, etc.; D = NH₂, CH₂NH₂, C(:NR₇)NH₂ (wherein R₇ = H, OH, CO₂R₈, OR₈, O₂COR₈; wherein R₈ = Ph, CH₂Ph, linear, branched, cyclic or branched cyclic C1-10 alkyl); L = (CH₂)_{m2} (m₂ = 0,1); P = **benzene, pyridine, pyrrole, furan, thiophene, oxazole, isoxazole, imidazole, 1,2-diazole, thiazole, isothiazole, pyridazine, pyridazine, pyrimidine, pyrazine, naphthalene, etc.**; n = 0-2; Q = H, **benzene, pyridine, pyridine, pyrrole, furan, thiophene, oxazole, isoxazole, imidazole, 1,2-diazole, thiazole, isothiazole, etc.**; Y, Z = R, F, Cl, Br, iodo, cyano, OR, CO₂R, COR, CONR₂, NR₂, NR(COR), N(COR)₂, CF₃, OCF₃, etc.], pharmaceutically acceptable salts, prodrugs, hydrates, solvates or isomers thereof are prepd. These compds. are inhibitors of coagulation enzyme, factor Xa (FXa). The present invention also relates to a pharmaceutical compn. contg. the above compd., and a method of using the same as an anticoagulant agent for treatment and prevention of thrombosis disorders. N-[4-(2-aminosulfonylphenyl)**phenyl**]-cis-2-(3-aminoiminomethylphenyl)cyclopropane-1-carboxamide monotrifluoroacetate, 4-(4-aminoiminomethylbenzyl)-1-(3-aminoiminomethylbenzyl)pyrrole-3-carboxamide bis(trifluoroacetate), 3-aminoiminomethylbenzyl 2-(3-aminoiminomethylphenyl)benzyl ether bis(trifluoroacetate), and (S)-N-{4-(2-aminosulfonylphenyl)benzoyl}-3-(3-aminoiminomethylphenyl)alanine Et ester trifluoroacetate in vitro inhibited FXa with K_i of 0.5, 0.12, 0.44, and 2 nM, resp., and thrombin with K_i of 2,900, 2.1, 5, and 620, resp., and exhibited the thrombin/FXa selectivity of 5,800, 18, 11, and 310, resp.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:457028 CAPLUS
DN 133:89545
TI Substituted (aminoiminomethyl- or aminomethyl)benzoheteroaryl compounds useful as anticoagulants
IN Dankulich, William P.; McGarry, Daniel G.; Burns, Christopher; Gallagher, Timothy F.; Volz, Francis A.
PA Aventis Pharmaceuticals Products Inc., USA
SO PCT Int. Appl., 215 pp.
CODEN: PIXXD2

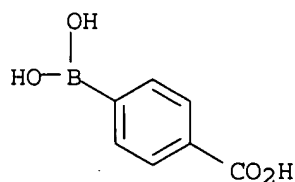
DT Patent
LA English

FAN.CNT 1

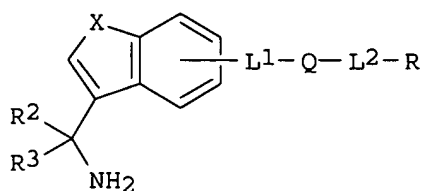
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000039087	A2	20000706	WO 1999-US30623	19991222
	WO 2000039087	A3	20001109		
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RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

US 1998-113710PA219981224

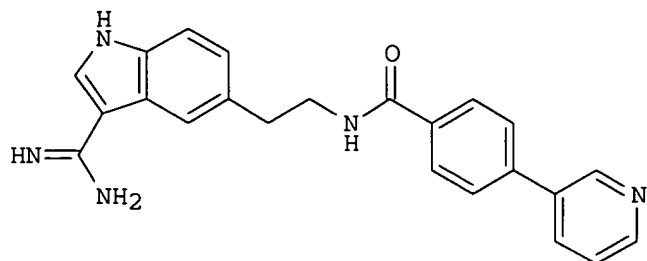
CA 2358047	AA	20000706	CA 1999-2358047	19991222
			US 1998-113710PP	19981224
			WO 1999-US30623W	19991222
EP 1140901	A2	20011010	EP 1999-966560	19991222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
			US 1998-113710PP	19981224
			WO 1999-US30623W	19991222
BR 9916845	A	20011030	BR 1999-16845	19991222
			US 1998-113710PP	19981224
			WO 1999-US30623W	19991222
JP 2002533438	T2	20021008	JP 2000-590999	19991222
			US 1998-113710PP	19981224
			WO 1999-US30623W	19991222
EE 200100341	A	20021216	EE 2001-341	19991222
			US 1998-113710PP	19981224
			WO 1999-US30623W	19991222
AU 760983	B2	20030529	AU 2000-22071	19991222
			US 1998-113710PP	19981224
			WO 1999-US30623W	19991222
US 6541505	B1	20030401	US 2000-609103	20000630
			US 1998-113710PP	19981224
			WO 1999-US30623A1	19991222
NO 2001003142	A	20010821	NO 2001-3142	20010622
			US 1998-113710PP	19981224
			WO 1999-US30623W	19991222
US 2003153604	A1	20030814	US 2003-372499	20030224
			US 1998-113710PP	19981224
			WO 1999-US30623A1	19991222
			US 2000-609103 A1	20000630
OS	MARPAT 133:89545			
IT	14047-29-1 , 4-Carboxybenzeneboronic acid			
	RL: RCT (Reactant); RACT (Reactant or reagent)			
	(starting material; prepn. of substituted (aminoiminomethyl- or aminomethyl)benzoheteroaryl compds. as anticoagulants)			
RN	14047-29-1 CAPLUS			
CN	Benzoic acid, 4-borono- (9CI) (CA INDEX NAME)			



GI



I



II

AB The invention is directed to (aminoiminomethyl)- or (aminomethyl)-substituted benzoheteroaryl compds. I, which are useful as inhibitors of Factor Xa (no data) [wherein X = O, S, NH or derivs.; L1 = alkylene, alkenylene, alkynylene; L2 = bond, or as given for L1; Q = NH or derivs., O, CO, COO, OCO, NHCO or derivs., S(O)O-2, SO2NH or derivs, etc.; R = H, cycloalkyl, heterocyclyl, aryl, wide range of other cyclic groups; R2, R3 = H; or R2R3 = NH or derivs.]. The invention is also directed to compns. contg. the compds., methods for their prepn., and their use, e.g., in the inhibition of thrombin formation, or for treating a patient suffering from, or subject to, a disease state assocd. with excess thrombin. Approx. 160 examples were prepd. and claimed, and hundreds of intermediates were prepd. For instance, 4-(pyrid-3-yl)benzoic acid underwent amidation with 3-cyano-5-(2-aminoethyl)indole using TBTU and DIEA, and the product nitrile was treated with HCl(g) in MeOH followed by NH3 in MeOH, to give the invention compd. II.

L12 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:772291 CAPLUS

DN 128:48495

TI preparation of cyclic peptides as antifungal agents

IN Henle, Stacy Kay; Turner, William Wilson

PA Eli Lilly and Co., USA

SO U.S., 26 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5693611	A	19971202	US 1997-785207	19970117
				US 1997-785207	19970117

OS MARPAT 128:48495

IT 136370-19-9P 146449-90-3P 158937-25-8P

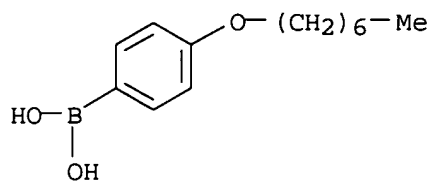
194481-41-9P 194481-45-3P 194481-49-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of cyclic peptides as antifungal agents)

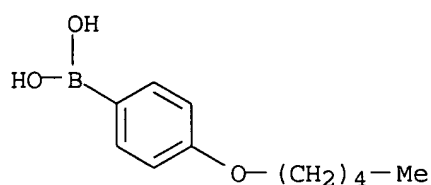
RN 136370-19-9 CAPLUS

CN Boronic acid, [4-(heptyloxy)phenyl]- (9CI) (CA INDEX NAME)



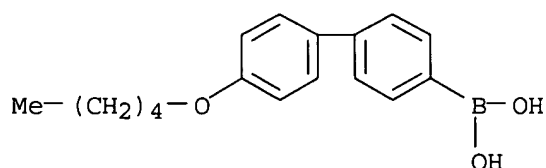
RN 146449-90-3 CAPLUS

CN Boronic acid, [4-(pentyloxy)phenyl]- (9CI) (CA INDEX NAME)



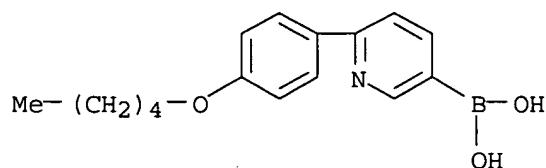
RN 158937-25-8 CAPLUS

CN Boronic acid, [4'-(pentyloxy)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)



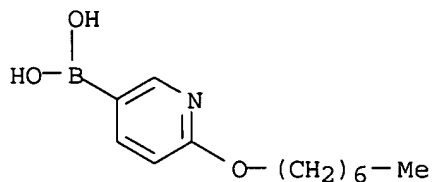
RN 194481-41-9 CAPLUS

CN Boronic acid, [6-[4-(pentyloxy)phenyl]-3-pyridinyl]- (9CI) (CA INDEX NAME)



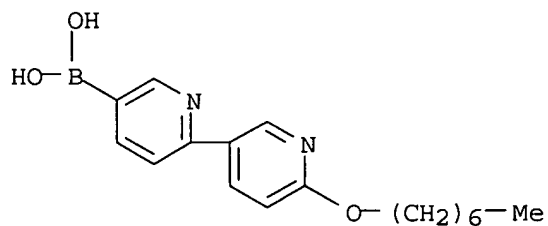
RN 194481-45-3 CAPLUS

CN Boronic acid, [6-(heptyloxy)-3-pyridinyl]- (9CI) (CA INDEX NAME)

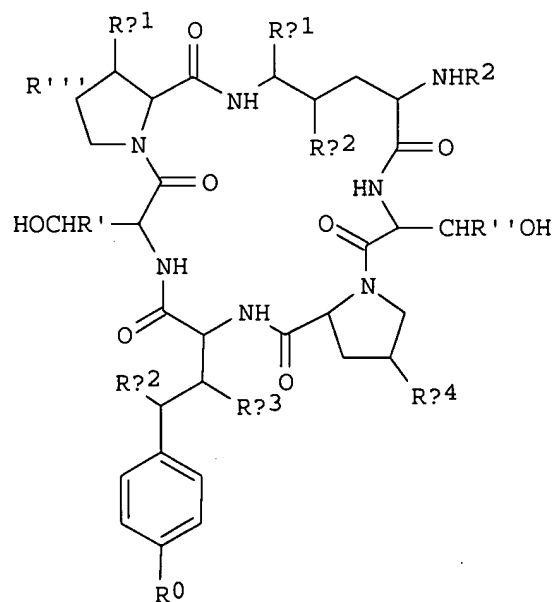


RN 194481-49-7 CAPLUS

CN Boronic acid, [6'-(heptyloxy)[2,3'-bipyridin]-5-yl]- (9CI) (CA INDEX NAME)



GI



I

AB Cyclic peptides I [$R' = H, Me, H_2NCH_2CH_2, H_2NCOCH_2$; $R'', R''' = H, Me$; $R_{x1} = H, NHR, OR$ ($R = \text{alkyl, benzyl, allyl, etc.}$); $R_{x2}, R_{y1}, R_{y2}, R_{y3}, R_{y4} = H, OH$; $R_0 = OH, OP(O)(OH)_2, OP(O)R_1OH, OP(O)(OR_1)OH$ ($R_1 = \text{alkyl, Ph, benzyl, p-halo- or p-nitrophenyl or -benzyl}$), $R_2 = CO-A-X-B-Y-C-R_3$ ($A, B, C = \text{benzene, pyridine, pyridazine, pyrimidine, pyrazine, furan or thiophene ring}$; $X, Y, = \text{bond or}$

C.tplbond.C; R3 = alkyl, alkoxy)] or their pharmaceutically acceptable salts were prepd. as antifungal agents. Thus, I [R', R'', R''' = Me; Rx1, Rx2, Ry1, Ry2, Ry3, Ry4, R0 = OH, R2 = [6-[6-[4-(pentyloxy)phenyl]-3-pyridyl]-3-pyridyl]carbonyl] was prepd. tested against C. albicans (min. inhibitory concn. = 0.78 .mu.g/mL).

=> d his

(FILE 'HOME' ENTERED AT 12:38:38 ON 24 SEP 2003)

FILE 'REGISTRY' ENTERED AT 12:39:29 ON 24 SEP 2003

L1 STRUCTURE UPLOADED

L2 50 S L1

L3 5071 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 12:40:04 ON 24 SEP 2003

L4 8602 S L3

L5 734 S L4 AND BENZENE

L6 0 S L4 AND TOULENE

L7 2038 S L4 AND PHENYL

L8 308 S L5 AND L7

L9 1081 S L4 AND PYRIDINE

L10 332 S L4 AND PYRIMIDINE

L11 81 S L4 AND PYRIDAZINE

L12 5 S L8 AND L9 AND L10 AND L11

=> s L9 and L10 and l11

L13 34 L9 AND L10 AND L11

=> s l4 and furane

L14 0 L4 AND FURANE

=> s l4 and methyl furane

L15 0 L4 AND METHYL FURANE

=> s l4 and thien

L16 74 L4 AND THIEN

=> s l13 and l16

L17 2 L13 AND L16

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MISSING OPERATOR L7 FBIB

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> d l17 fbib hitsatr abs total

'HITSATR' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS ----- GI and AB

ALL ----- BIB, AB, IND, RE

APPS ----- AI, PRAI

BIB ----- AN, plus Bibliographic Data and PI table (default)

CAN ----- List of CA abstract numbers without answer numbers

CBIB ----- AN, plus Compressed Bibliographic Data

DALL ----- ALL, delimited (end of each field identified)
DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data
IPC ----- International Patent Classifications
MAX ----- ALL, plus Patent FAM, RE
PATS ----- PI, SO
SAM ----- CC, SX, TI, ST, IT
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
SCAN must be entered on the same line as the DISPLAY,
e.g., D SCAN or DISPLAY SCAN)
STD ----- BIB, IPC, and NCL

IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IMAX ----- MAX, indented with text labels
ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

HIT ----- Fields containing hit terms
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)
containing hit terms
HITRN ----- HIT RN and its text modification
HITSTR ----- HIT RN, its text modification, its CA index name, and
its structure diagram
HITSEQ ----- HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields
KWIC ----- Hit term plus 20 words on either side
OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.

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L17 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:736258 CAPLUS

DN 137:263048

TI Imidazo-pyrimidine derivatives as ligands for GABA receptors,
and their preparation, pharmaceutical compositions, and use in the

treatment of adverse neurological conditions.

IN Chambers, Mark Stuart; Goodacre, Simon Charles; Hallett, David James; Jennings, Andrew; Jones, Philip; Lewis, Richard Thomas; Moore, Kevin William; Russell, Michael Geoffrey Neil; Street, Leslie Joseph; Szekeres, Helen Jane

PA Merck Sharp & Dohme Limited, UK

SO PCT Int. Appl., 197 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002074773	A1	20020926	WO 2002-GB1352	20020319
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2002193385	A1	20021219	US 2002-100797	20020319
PRAI	GB 2001-7134	A	20010321		
	GB 2001-27938	A	20011121		
	US 2000-719712	A3	20001215		

OS MARPAT 137:263048

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:12273 CAPLUS

DN 134:86271

TI Preparation of **pyrimidine** derivatives as Src-family protein tyrosine kinase inhibitor compounds

IN Armstrong, Helen M.; Beresis, Richard; Goulet, Joung L.; Holmes, Mark A.; Hong, Xingfang; Mills, Sander G.; Parsons, William H.; Sinclair, Peter J.; Steiner, Mark G.; Wong, Frederick; Zaller, Dennis M.

PA Merck & Co., Inc., USA

SO PCT Int. Appl., 470 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001000213	A1	20010104	WO 2000-US17443	20000626
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
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	EP 1206265	A1	20020522	EP 2000-941701	20000626

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL
US 6498165 B1 20021224 US 2000-604305 20000626
JP 2003523942 T2 20030812 JP 2001-505922 20000626
PRAI US 1999-141639P P 19990630
WO 2000-US17443 W 20000626
OS MARPAT 134:86271
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 12:38:38 ON 24 SEP 2003)

FILE 'REGISTRY' ENTERED AT 12:39:29 ON 24 SEP 2003

L1 STRUCTURE UPLOADED
L2 50 S L1
L3 5071 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 12:40:04 ON 24 SEP 2003

L4 8602 S L3
L5 734 S L4 AND BENZENE
L6 0 S L4 AND TOULENE
L7 2038 S L4 AND PHENYL
L8 308 S L5 AND L7
L9 1081 S L4 AND PYRIDINE
L10 332 S L4 AND PYRIMIDINE
L11 81 S L4 AND PYRIDAZINE
L12 5 S L8 AND L9 AND L10 AND L11
L13 34 S L9 AND L10 AND L11
L14 0 S L4 AND FURANE
L15 0 S L4 AND METHYL FURANE
L16 74 S L4 AND THIEN
L17 2 S L13 AND L16

=> s l4 and furan

L18 296 L4 AND FURAN

=> s l13 and l16 and l18

L19 2 L13 AND L16 AND L18

=> d l19 fbibn hitstr abs total

'FBIBN' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS ----- GI and AB
ALL ----- BIB, AB, IND, RE
APPS ----- AI, PRAI
BIB ----- AN, plus Bibliographic Data and PI table (default)
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
DALL ----- ALL, delimited (end of each field identified)
DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data

IPC ----- International Patent Classifications
 MAX ----- ALL, plus Patent FAM, RE
 PATS ----- PI, SO
 SAM ----- CC, SX, TI, ST, IT
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 SCAN must be entered on the same line as the DISPLAY,
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 STD ----- BIB, IPC, and NCL

 IABS ----- ABS, indented with text labels
 IALL ----- ALL, indented with text labels
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 IMAX ----- MAX, indented with text labels
 ISTD ----- STD, indented with text labels

 OBIB ----- AN, plus Bibliographic Data (original)
 OIBIB ----- OBIB, indented with text labels

 SBIB ----- BIB, no citations
 SIBIB ----- IBIB, no citations

 HIT ----- Fields containing hit terms
 HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)
 containing hit terms
 HITRN ----- HIT RN and its text modification
 HITSTR ----- HIT RN, its text modification, its CA index name, and
 its structure diagram
 HITSEQ ----- HIT RN, its text modification, its CA index name, its
 structure diagram, plus NTE and SEQ fields
 FHITSTR ----- First HIT RN, its text modification, its CA index name, and
 its structure diagram
 FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
 structure diagram, plus NTE and SEQ fields
 KWIC ----- Hit term plus 20 words on either side
 OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.

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 'BIBN' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS ----- GI and AB
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 APPS ----- AI, PRAI
 BIB ----- AN, plus Bibliographic Data and PI table (default)
 CAN ----- List of CA abstract numbers without answer numbers
 CBIB ----- AN, plus Compressed Bibliographic Data
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DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data
IPC ----- International Patent Classifications
MAX ----- ALL, plus Patent FAM, RE
PATS ----- PI, SO
SAM ----- CC, SX, TI, ST, IT
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
SCAN must be entered on the same line as the DISPLAY,
e.g., D SCAN or DISPLAY SCAN)
STD ----- BIB, IPC, and NCL

IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IMAX ----- MAX, indented with text labels
ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

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HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)
containing hit terms
HITRN ----- HIT RN and its text modification
HITSTR ----- HIT RN, its text modification, its CA index name, and
its structure diagram
HITSEQ ----- HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields
KWIC ----- Hit term plus 20 words on either side
OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.
ENTER DISPLAY FORMAT (BIB):BIB

L19 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:736258 CAPLUS
DN 137:263048
TI Imidazo-pyrimidine derivatives as ligands for GABA receptors,
and their preparation, pharmaceutical compositions, and use in the
treatment of adverse neurological conditions.

IN Chambers, Mark Stuart; Goodacre, Simon Charles; Hallett, David James;
Jennings, Andrew; Jones, Philip; Lewis, Richard Thomas; Moore, Kevin
William; Russell, Michael Geoffrey Neil; Street, Leslie Joseph; Szekeres,
Helen Jane

PA Merck Sharp & Dohme Limited, UK

SO PCT Int. Appl., 197 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002074773	A1	20020926	WO 2002-GB1352	20020319
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2002193385	A1	20021219	US 2002-100797	20020319
PRAI	GB 2001-7134	A	20010321		
	GB 2001-27938	A	20011121		
	US 2000-719712	A3	20001215		

OS MARPAT 137:263048

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:12273 CAPLUS

DN 134:86271

TI Preparation of **pyrimidine** derivatives as Src-family protein
tyrosine kinase inhibitor compounds

IN Armstrong, Helen M.; Beresis, Richard; Goulet, Joung L.; Holmes, Mark A.;
Hong, Xingfang; Mills, Sander G.; Parsons, William H.; Sinclair, Peter J.;
Steiner, Mark G.; Wong, Frederick; Zaller, Dennis M.

PA Merck & Co., Inc., USA

SO PCT Int. Appl., 470 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001000213	A1	20010104	WO 2000-US17443	20000626
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	EP 1206265	A1	20020522	EP 2000-941701	20000626
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,			

IE, SI, LT, LV, FI, RO, MK, CY, AL
US 6498165 B1 20021224 US 2000-604305 20000626
JP 2003523942 T2 20030812 JP 2001-505922 20000626
PRAI US 1999-141639P P 19990630
WO 2000-US17443 W 20000626
OS MARPAT 134:86271
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 12:38:38 ON 24 SEP 2003)

FILE 'REGISTRY' ENTERED AT 12:39:29 ON 24 SEP 2003

L1 STRUCTURE UPLOADED
L2 50 S L1
L3 5071 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 12:40:04 ON 24 SEP 2003

L4 8602 S L3
L5 734 S L4 AND BENZENE
L6 0 S L4 AND TOULENE
L7 2038 S L4 AND PHENYL
L8 308 S L5 AND L7
L9 1081 S L4 AND PYRIDINE
L10 332 S L4 AND PYRIMIDINE
L11 81 S L4 AND PYRIDAZINE
L12 5 S L8 AND L9 AND L10 AND L11
L13 34 S L9 AND L10 AND L11
L14 0 S L4 AND FURANE
L15 0 S L4 AND METHYL FURANE
L16 74 S L4 AND THIEN
L17 2 S L13 AND L16
L18 296 S L4 AND FURAN
L19 2 S L13 AND L16 AND L18

=> s l16 and l 18

L20 0 L16 AND L 18

=> s l8 and l13

L21 5 L8 AND L13

=> s l8 and l13

L22 5 L8 AND L13

=> s l8 and l16

L23 14 L8 AND L16

=> s l8 and l18

L24 56 L8 AND L18

=> s l23 and l24

L25 8 L23 AND L24

=> s l21 and l22 and l23 and l24

L26 0 L21 AND L22 AND L23 AND L24

=> d 25 fbib hitstr abs total

L26 HAS NO ANSWERS

'FBIB HITSTR ABS ' IS NOT A VALID STRUCTURE FORMAT KEYWORD

Structure Formats

SIA ----- Structure Image, Attributes, and map table if it contains data. (Default)

SIM ----- Structure IMage.

SAT ----- Structure ATtributes and map table if it contains data.

SCT ----- Structure Connection Table and map table if it contains data.

SDA ----- All Structure Data (image, attributes, connection table and map table if it contains data).

NOS ----- NO Structure data.

ENTER STRUCTURE FORMAT (SIA), SCT, SDA, SIM, SAT, NOS:end

=> d 125 fbib hitstr abs total

L25 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:610410 CAPLUS

DN 139:179889

TI Methylene amides, particularly [(arylmethyl)amino] (oxo)acetic acids, useful as modulators, and especially inhibitors, of protein tyrosine phosphatases (PTPs), and their preparation, uses, e.g., as antidiabetics, and pharmaceutical compositions.

IN Swinnen, Dominique; Bombrun, Agnes; Gonzalez, Jerome; Gerber, Patrick; Pittet, Pierre-Andre

PA Applied Research Systems ARS Holding N.V., Neth. Antilles

SO PCT Int. Appl., 346 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003064376	A1	20030807	WO 2003-EP808	20030127
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

EP 2002-100078 A 20020129

EP 2002-100410 A 20020425

IT 5720-05-8, 4-Tolylboronic acid 100124-06-9,

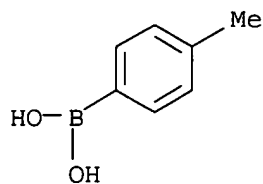
Dibenzofuran-4-boronic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; prepn. of [(arylmethyl)amino] (oxo)acetic acids as PTP inhibitors for use as antidiabetics, etc.)

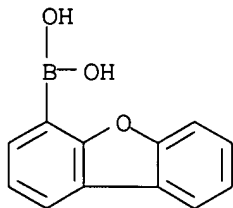
RN 5720-05-8 CAPLUS

CN Boronic acid, (4-methylphenyl)- (9CI) (CA INDEX NAME)

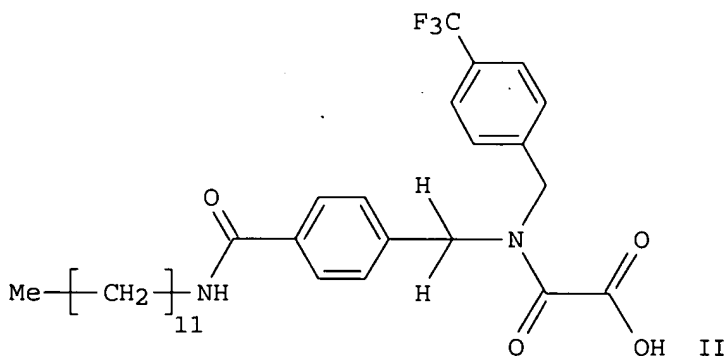
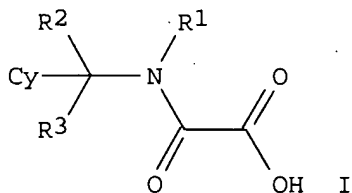


RN 100124-06-9 CAPLUS

CN Boronic acid, 4-dibenzofuranyl- (9CI) (CA INDEX NAME)



GI



AB Title compds. I [wherein R1 = alkyl, alkenyl, alkynyl, aryl, heteroaryl, (3-8-membered)-cycloalkyl, heterocycloalkyl, (alkyl)aryl, (alkyl)heteroaryl, (alkenyl)aryl, heteroaryl, (alkynyl)aryl, heteroaryl; R2, R3 = independently H or alkyl; Cy = aryl, heteroaryl, cycloalkyl, heterocyclyl; with the proviso that four compds. are excluded; their geometrical isomers, optically active forms as enantiomers, diastereomers

and racemates, and pharmaceutically acceptable salts and active derivs.] were prepd. as inhibitors of protein tyrosine phosphatases (PTPs), in particular PTP1B. Examples include over 400 invention compds., five pharmaceutical formulations, and two biol. assays. For example, II was prepd. in 4 steps by amidation of 4-formylbenzoic acid with dodecylamine in THF in the presence of 4-methylmorpholine and iso-Bu chloroformate for 3 h at room temp., reductive amination with 4-trifluoromethylbenzylamine in DCE in the presence of NaBH(OAc)₃, TEA-acylation with chlorooxoacetic acid Et ester in THF, and base-catalyzed hydrolysis of the ester. II exhibited an IC₅₀ value of 2.224 .mu.M for inhibition of PTP1B, 1.40 .mu.M for GLEPP-1, 2.40 .mu.M for SHP-1, and 2.70 .mu.M for SHP-2 in an in vitro assay. In an in vivo postprandial glycemia model in db/db mice, II, at 20-200 mg/kg orally, decreased blood glucose level by 17% at 20 mg/kg, by 42% at 100 mg/kg, and by 48% at 200 mg/kg, with decreases in serum insulin levels of -2%, 66%, and 89%, resp. Thus, I and their formulations are useful for the treatment and/or prevention of metabolic disorders mediated by insulin resistance or hyperglycemia, comprising diabetes type I and/or II, inadequate glucose tolerance, insulin resistance, hyperlipidemia, hypertriglyceridemia, hypercholesterolemia, obesity, polycystic ovary syndrome (PCOS).

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:472495 CAPLUS

DN 139:53008

TI Preparation of benzoxazoles and analogues as estrogenic agents

IN Malamas, Michael Sotirios; McDvitt, Robert Emmett; Gunawan, Iwan; Manas, Eric Steven; Collini, Michael David; Harris, Heather Anne; Keith, James Carl, Jr.; Albert, Leo Massillamoney; Lyttle, Cecil Richard

PA Wyeth, John, and Brother Ltd., USA

SO PCT Int. Appl., 100 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003050095	A1	20030619	WO 2002-US38513	20021203
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

US 2001-336663PP 20011205

OS MARPAT 139:53008

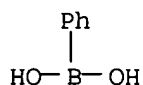
IT 98-80-6, Benzenboronic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

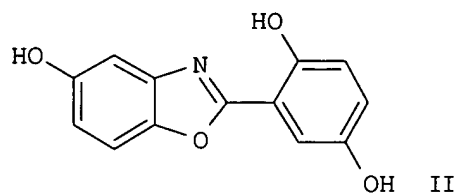
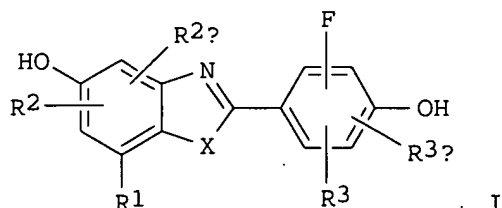
(prepn. of benzoxazoles and analogs as ER-.alpha. and ER-.beta. modulators)

RN 98-80-6 CAPLUS

CN Boronic acid, phenyl- (9CI) (CA INDEX NAME)



GI



AB Title compds. I [wherein R1 = (un)substituted alkenyl; R2 and R2a = independently H, OH, halo, alkoxy, trifluoroalkyl, trifluoroalkoxy, or (un)substituted alkyl, alkenyl, or alkynyl; R3 and R3a = independently H, halo, alkoxy, trifluoroalkyl, trifluoroalkoxy, or (un)substituted alkyl, alkenyl, or alkynyl; R5 and R6 = independently H, alkyl, or aryl; X = O, S, or NR7; R7 = H, alkyl, aryl, COR5, CO2R5, or SO2R5; and pharmaceutically acceptable salts thereof] were prepd. as estrogen receptor (ER) modulators. For example, 2,5-dimethoxybenzoic acid was condensed with 2,5-dimethoxyaniline using thionyl chloride in THF to give the amide (93%). Reaction of the amide with pyridine.bul.HCl at 200.degree. for 1 h afforded the benzoxazole II (76%). I exhibited binding affinities for ER-.alpha. and ER-.beta. in the ranges of 44 nM to >10,000 nM and 1 nM to 1600 nM, resp., indicating that these compds. are preferentially ER-.beta. selective ligands but are still active at ER-.alpha.. Selected invention compds. were also tested for metallothionein II mRNA and progesterone mRNA regulation, uterotrophic activity, osteoporosis and lipid modulation, estrogen receptor antagonist activity via the rat hot flush test, mammotrophic activity, inflammatory bowel disease treatment, antiarthritic activity, neuroprotection, ovulation inhibition, and endometriosis treatment. Thus, I and pharmaceutical compns. thereof are useful for the treatment of a wide variety of ER-assocd. conditions and diseases.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:334903 CAPLUS

DN 138:353988

TI Preparation of benzimidazoles and analogs and their use as protein kinase inhibitors

IN Edwards, Michael Louis; Cox, Paul Joseph; Amendola, Shelley; Deprets,

Stephanie Daniele; Gillespy, Timothy Alan; Edlin, Christopher David; Morley, Andrew David; Gardner, Charles J.; Pedgrift, Brian; Bouchard, Herve; Babin, Didier; Gauzy, Laurence; Le Brun, Alain; Majid, Tahir Nedeem; Reader, John C.; Payne, Lloyd J.; Khan, Nawaz M.; Cherry, Michael

PA Aventis Pharmaceuticals Inc., USA

SO PCT Int. Appl., 711 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003035065	A1	20030501	WO 2002-GB4763	20021024
	W:				
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	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

FR 2001-13868 A 20011026

GB 2002-6893 A 20020322

GB 2002-6895 A 20020322

US 2002-395060PP 20020711

US 2002-395151PP 20020711

FR 2001-13868 20011026

FR 2831537 A1 20030502

OS MARPAT 138:353988

IT 98-80-6, Phenylboronic acid 1423-26-3, (3-(Trifluoromethyl)phenyl)boronic acid 1679-18-1, 4-Chlorophenylboronic acid 1692-25-7, Pyridine-3-boronic acid 1765-93-1, (4-Fluorophenyl)boronic acid 1993-03-9, 2-Fluorophenylboronic acid 5122-94-1, (Biphenyl-4-yl)boronic acid 5720-05-8, 4-Methylphenylboronic acid 5720-06-9, 2-Methoxyphenylboronic acid 5720-07-0, (4-Methoxyphenyl)boronic acid 10365-98-7, (3-Methoxyphenyl)boronic acid 13922-41-3, (1-Naphthyl)boronic acid 16152-51-5, (4-Isopropylphenyl)boronic acid 16419-60-6, (2-Tolyl)boronic acid 17933-03-8, (3-Tolyl)boronic acid 55499-43-9, (3,4-Dimethylphenyl)boronic acid 59016-93-2, (4-(Hydroxymethyl)phenyl)boronic acid 63503-60-6, (3-Chlorophenyl)boronic acid 68716-47-2, (2,4-Dichlorophenyl)boronic acid 71597-85-8, (4-Hydroxyphenyl)boronic acid 87199-15-3, (3-(Hydroxymethyl)phenyl)boronic acid 87199-18-6, (3-Hydroxyphenyl)boronic acid 94839-07-3, 3,4-Methylenedioxyphenylboronic acid 108847-76-3, (Thianthren-1-yl)boronic acid 122775-35-3, (3,4-Dimethoxyphenyl)boronic acid 123324-71-0, (4-tert-Butylphenyl)boronic acid 128796-39-4, (4-(Trifluoromethyl)phenyl)boronic acid 139301-27-2, (4-(Trifluoromethoxy)phenyl)boronic acid 139911-29-8, (4-Fluoro-2-methylphenyl)boronic acid 144025-03-6, (2,4-Difluorophenyl)boronic acid 144432-85-9, (3-Chloro-4-fluorophenyl)boronic acid 145349-76-4, (4-(Ethylthio)phenyl)boronic acid 146631-00-7, (4-(Benzyloxy)

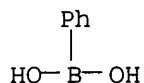
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phenyl)boronic acid 166316-48-9, (4-(3-Hydroxy-3-
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(3-Fluoro-4-phenylphenyl)boronic acid 179113-90-7,
(3-(Trifluoromethoxy)phenyl)boronic acid 182163-96-8,
(3,4,5-Trimethoxyphenyl)boronic acid 204841-19-0,
(3-Acetylphenyl)boronic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of benzimidazoles and analogs and their use as protein kinase
inhibitors)

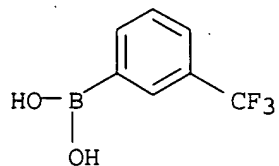
RN 98-80-6 CAPLUS

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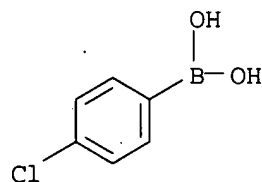
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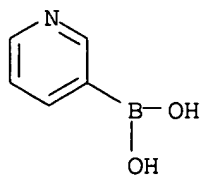
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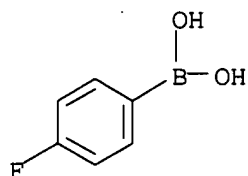
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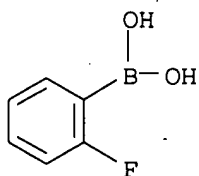
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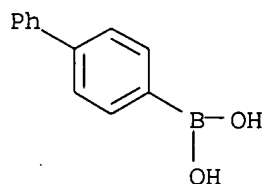
RN 1993-03-9 CAPLUS

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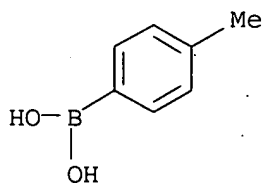
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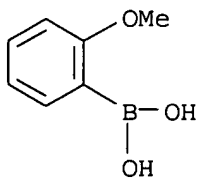
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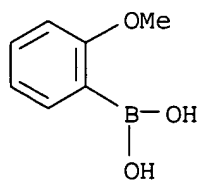
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RN 5720-06-9 CAPLUS

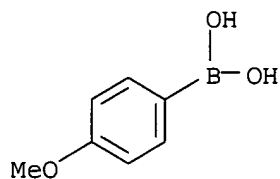
CN Boronic acid, (2-methoxyphenyl)- (9CI) (CA INDEX NAME)





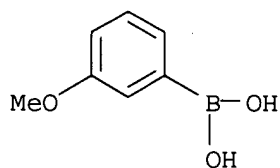
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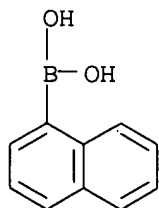
RN 10365-98-7 CAPLUS

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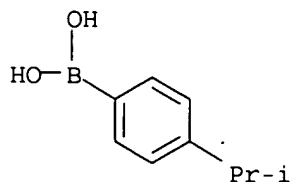
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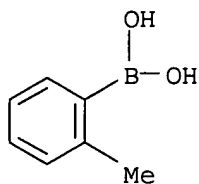
RN 16152-51-5 CAPLUS

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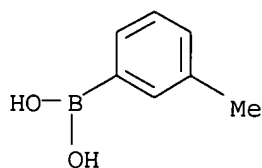
RN 16419-60-6 CAPLUS

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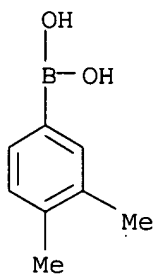
RN 17933-03-8 CAPLUS

CN Boronic acid, (3-methylphenyl)- (9CI) (CA INDEX NAME)



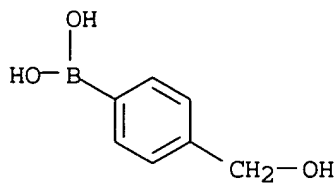
RN 55499-43-9 CAPLUS

CN Boronic acid, (3,4-dimethylphenyl)- (9CI) (CA INDEX NAME)



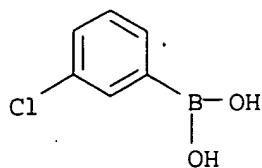
RN 59016-93-2 CAPLUS

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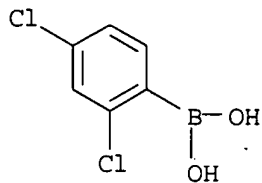
RN 63503-60-6 CAPLUS

CN Boronic acid, (3-chlorophenyl)- (9CI) (CA INDEX NAME)



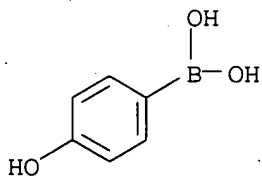
RN 68716-47-2 CAPLUS

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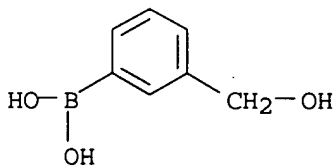
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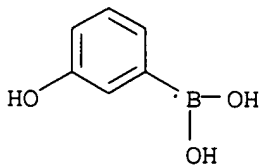
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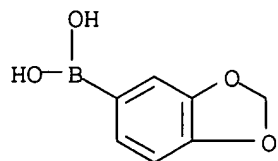
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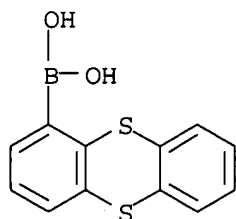
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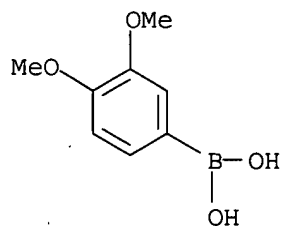
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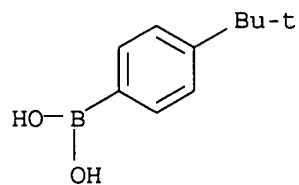
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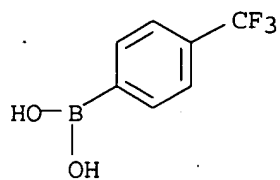
RN 123324-71-0 CAPLUS

CN Boronic acid, [4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



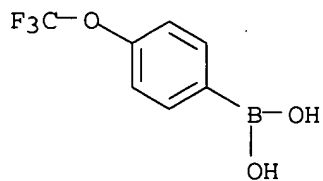
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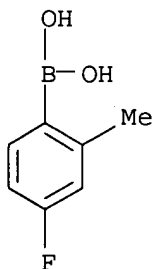
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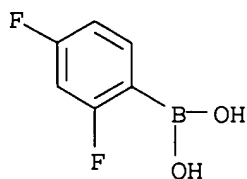
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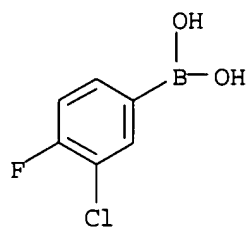
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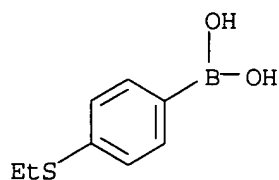
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CN Boronic acid, (3-chloro-4-fluorophenyl)- (9CI) (CA INDEX NAME)



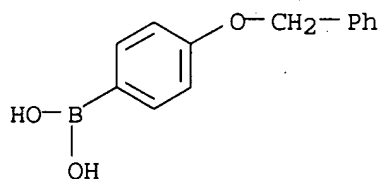
RN 145349-76-4 CAPLUS

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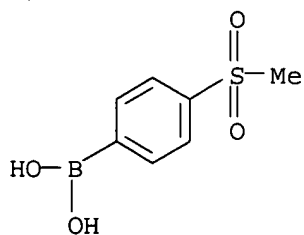
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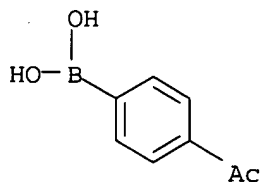
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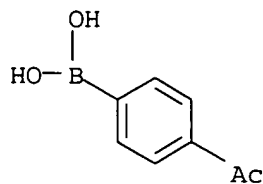
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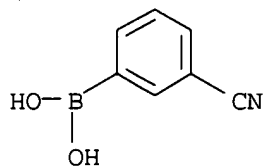
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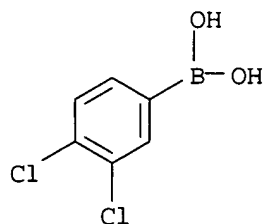




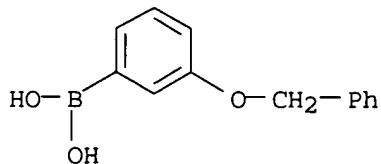
RN 150255-96-2 CAPLUS
CN Boronic acid, (3-cyanophenyl)- (9CI) (CA INDEX NAME)



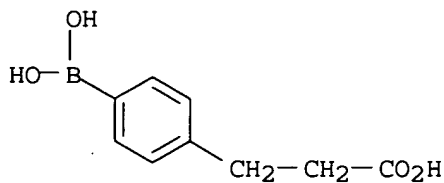
RN 151169-75-4 CAPLUS
CN Boronic acid, (3,4-dichlorophenyl)- (9CI) (CA INDEX NAME)



RN 156682-54-1 CAPLUS
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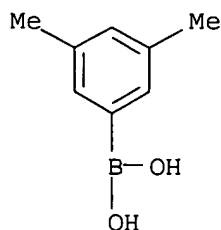


RN 166316-48-9 CAPLUS
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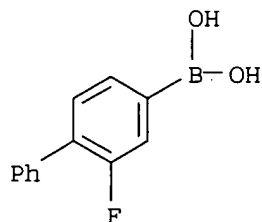
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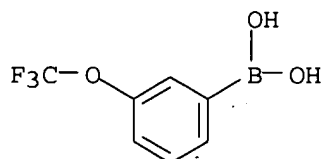
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CN Boronic acid, (2-fluoro[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



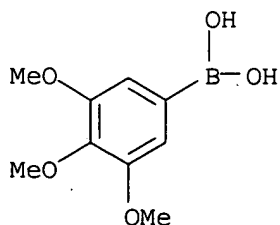
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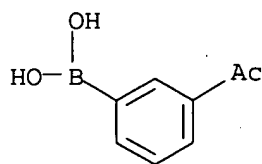
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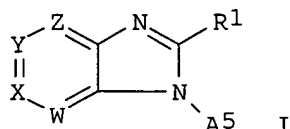


RN 204841-19-0 CAPLUS

CN Boronic acid, (3-acetylphenyl)- (9CI) (CA INDEX NAME)



GI



AB The invention is directed to physiologically active benzimidazoles and analogs (shown as I; variables defined below; e.g. 2-(1H-indazol-3-yl)-1H-benzimidazole-5-carboxylic acid benzylamide) and compounds containing such compounds, and their prodrugs, and pharmaceutically acceptable salts and solvates of such compounds and their prodrugs, as well as to novel I and to processes for their preparation. Such compounds and compounds have valuable pharmaceutical properties, in particular the ability to inhibit kinases. For I: X = C-R2 and W, Y and Z = CH or CR3; or W = CH, X = N, Y = CH or CR3, and Z = CH or CR3; or W = N, X = CH or CR2, Y = CH and CR3, and Z = CH or CR3; or W = N, X = CH or CR2, Y = N, and Z is CH or CR3; or W = N, X = CH or CR2, Y = CH or CR3, and Z = N; or W = N, X = N, Y = CH or CR3, and Z = CH or CR3. A5 = H or alkyl; R1 = optionally substituted aryl or heteroaryl; additional details are given in the claims. IC50 values for >200 I are tabulated for inhibition of KDR receptor tyrosine kinase. Particular I inhibit SYK activity with IC50's = 100 μM to 0.1 nM. Particular I inhibit ITK activity with IC50's = 100 μM to 1 μM. I inhibit the increase in edema observed in a sensitized mouse ear following antigen exposure and inhibit mast cell activation and functional responses when given orally in a mouse model of passive cutaneous anaphylaxis. Methods of preparation are claimed and hundreds of example preparations of I and intermediates leading to them are included. For example, 20 mg 2-(1H-indazol-3-yl)-1H-benzimidazole-5-carboxylic acid benzylamide was prepared from 20 mg 2-(1H-indazol-3-yl)-1H-benzimidazole-5-carboxylic acid and benzylamine in DMF in the presence of HBTU followed by addition of N,N-diisopropylethylamine; the acid was prepared in several steps starting from 3-indazolecarboxylic acid and involving intermediates methyl 3-indazolecarboxylate, (1H-indazol-3-yl)methanol and 1H-indazole-3-carboxaldehyde.

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:242160 CAPLUS

DN 138:271705

TI Preparation of triazinyl and other carboxamides as inhibitors of histone deacetylase

IN Delorme, Daniel; Woo, Soon Hyung; Vaisburg, Arkadii; Moradel, Oscar; Leit, Silvana; Raepfel, Stephane; Frechette, Sylvie; Bouchain, Giliane

PA Methygene, Inc., Can.

SO PCT Int. Appl., 347 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003024448	A2	20030327	WO 2002-US29017	20020912
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

US 2001-322402PP 20010914

US 2002-391728PP 20020626

OS MARPAT 138:271705

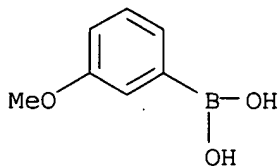
IT 10365-98-7, 3-Methoxyphenylboronic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

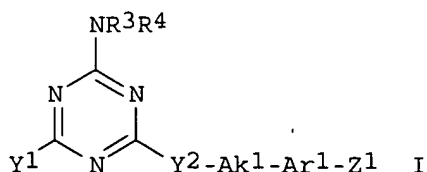
(prepn. of triazinyl and other carboxamides as inhibitors of histone deacetylase for treating cell proliferative disorders)

RN 10365-98-7 CAPLUS

CN Boronic acid, (3-methoxyphenyl)- (9CI) (CA INDEX NAME)



GI



AB The invention relates to triazines (shown as I; variables defined below; e.g. 4-[[4-amino-6-(2-indanylamino)-[1,3,5]triazin-2-ylamino]methyl]-N-(2-aminophenyl)benzamide) and Cy3-X1-Ar2-(C(R5):C(R6))qC(O)NH-Ay2 (II; variables defined below; e.g.), many of which are N-(o-aminophenyl)carboxamides, as inhibitors of histone deacetylase (data included for many I and II). The invention provides compds. and methods for inhibiting histone deacetylase enzymic activity. The invention also provides compns. and methods for treating cell proliferative diseases and

conditions. Antineoplastic effects of some I and II are illustrated for colorectal, pulmonary and pancreatic neoplasms; also the combined antineoplastic effect of histone deacetylase inhibitors and histone deacetylase antisense oligonucleotides on tumor cells in vivo was demonstrated. For I: R3 and R4 = H, L1, Cy1 and -L1-Cy1 (L1 = C1-C6 alkyl, C2-C6 heteroalkyl, or C3-C6 alkenyl; Cy1 = cycloalkyl, aryl, heteroaryl, or heterocyclyl) or R3 and R4 are taken together with the adjacent N atom to form a 5-, 6-, or 7-membered ring, wherein the ring atoms = C, O, S, and N, and wherein the ring is optionally substituted, and optionally forms part of a bicyclic ring system, or is optionally fused to one or two aryl or heteroaryl rings, or to one or two satd. or partially unsatd. cycloalkyl or heterocyclic rings, each of which rings and ring systems is optionally substituted. Y1 = -N(R1)(R2), -CH2-C(O)-N(R1)(R2), halogen, and H (R1 and R2 = H, L1, Cy1, and -L1-Cy1). Y2 = chem. bond or N(R0) (R0 = H, alkyl, aryl, aralkyl, and acyl); Ak1 = C1-C6 alkylene, C1-C6-heteroalkylene (preferably, in which one -CH2- is replaced with -NH-, and more preferably -NH-CH2), C2-C6 alkenylene or C2-C6 alkynylene; Ar1 = arylene or heteroarylene, either of which is optionally substituted; and Z1 = C(O)NH-Ay1 and CH:CHC(O)NH-Ay1 (Ay1 = aryl or heteroaryl, each of which is optionally substituted). For II: Cy2 = cycloalkyl, aryl, heteroaryl, or heterocyclyl; X1 = covalent bond, M1-L2-M1, and L2-M2-L2 (L2 = chem. bond, C1-C4 alkylene, C2-C4 alkenylene, and C2-C4 alkynylene, provided that L2 is not a chem. bond when X1 is M1-L2-M1; M1 = -O-, -N(R7)-, -S-, -S(O)-, S(O)2-, -S(O)2N(R7)-, -N(R7)S(O)2-, -C(O)-, -C(O)NH-, -NHC(O)-, -NHC(O)-O- and -OC(O)NH- (R7 = H, alkyl, aryl, aralkyl, acyl, heterocyclyl, and heteroaryl); and M2 = M1, heteroarylene, and heterocyclylene, either of which rings is optionally substituted). Ar2 = arylene or heteroarylene, each of which is optionally substituted; R5 and R6 = H, alkyl, aryl, and aralkyl; q is 0 or 1; and Ay2 is a 5-6 membered cycloalkyl, heterocyclyl, or heteroaryl substituted with an amino or hydroxy moiety (preferably these groups are ortho to the amide N to which Ay2 is attached) and further optionally substituted; provided that when Cy2 is naphthyl, X1 is -CH2-, Ar2 is Ph, R5 and R6 are H, and q is 0 or 1, Ay2 is not Ph or o-hydroxyphenyl. Although the methods of prepn. are not claimed, hundreds of example prepn. are included.

L25 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:658752 CAPLUS
 DN 137:201139
 TI Substituted polycyclic aryl and heteroaryl tertiary-heteroalkylamines useful for inhibiting cholesteryl ester transfer protein activity
 IN Sikorski, James A.; Durley, Richard C.; Mischke, Deborah A.; Reinhard, Emily J.; Fobian, Yvette M.; Tollefson, Michael B.; Wang, Lijuan; Grapperhaus, Margaret L.; Hickory, Brian S.; Massa, Mark A.; Norton, Monica B.; Vernier, William F.; Parnas, Barry L.; Promo, Michele A.; Hamme, Ashton T.; Spangler, Dale P.; Rueppel, Melvin L.
 PA USA
 SO U.S. Pat. Appl. Publ., 157 pp., Division of U.S. Ser. No. 405,524.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002120011	A1	20020829	US 2001-991174	20011114
	US 6479552	B2	20021112		
				US 1999-405524	A319990923
	US 6448295	B1	20020910	US 2001-991208	20011114

US 6451823	B1	20020917	US 1999-405524 A319990923
			US 2001-990645 20011114
US 6451830	B1	20020917	US 1999-405524 A319990923
			US 2001-991085 20011114
US 6458852	B1	20021001	US 1999-405524 A319990923
			US 2001-991210 20011114
US 6458849	B1	20021001	US 1999-405524 A319990923
			US 2001-991273 20011114
US 6462092	B1	20021008	US 1999-405524 A319990923
			US 2001-990811 20011114
US 6476057	B1	20021105	US 1999-405524 A319990923
US 2002165232	A1	20021107	US 2001-990833 20011114
			US 1999-405524 A319990923
US 6476075	B1	20021105	US 2001-991301 20011114
			US 1999-405524 A319990923
US 2002165231	A1	20021107	US 2001-991241 20011114
US 6586433	B2	20030701	
			US 1999-405524 A319990923
US 6455519	B1	20020924	US 2001-991116 20011115
			US 1999-405524 A319990923
US 6458803	B1	20021001	US 2001-991084 20011123
			US 1999-405524 A319990923
US 2003032644	A1	20030213	US 2002-71518 20020207
			US 1999-405524 A119990923
US 2003087905	A1	20030508	US 2002-154726 20020523
			US 1999-405524 B319990923
US 2003096818	A1	20030522	US 2001-991084 A120011123
			US 2002-155921 20020523
US 2003100559	A1	20030529	US 1999-405524 B319990923
			US 2001-990811 A120011114
US 2003105100	A1	20030605	US 2002-155095 20020523
			US 1999-405524 B319990923
US 2003119833	A1	20030626	US 2001-991174 A120011114
			US 2002-155451 20020523
US 2003125328	A1	20030703	US 1999-405524 B319990923
			US 2001-990833 A120011114
US 2003125329	A1	20030703	US 2002-154571 20020523
			US 1999-405524 B319990923
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			US 2002-154788 20020523
			US 1999-405524 B319990923
			US 2001-990645 A120011114
			US 2002-155346 20020523
			US 1999-405524 B319990923
			US 2001-991273 A120011114

PATENT FAMILY INFORMATION:

FAN 2000:227617

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000018721	A1	20000406	WO 1999-US22119	19990923
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DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2345118	AA	20000406	US 1998-101663PP 19980925 CA 1999-2345118 19990923 US 1998-101663PP 19980925 WO 1999-US22119W 19990923
AU 9960594	A1	20000417	AU 1999-60594 19990923 US 1998-101663PP 19980925 WO 1999-US22119W 19990923
EP 1115693	A1	20010718	EP 1999-969710 19990923
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JP 2002525348	T2	20020813	US 1998-101663PP 19980925 WO 1999-US22119W 19990923 JP 2000-572183 19990923 US 1998-101663PP 19980925 WO 1999-US22119W 19990923
US 2003083331	A1	20030501	US 2002-154861 20020523 US 1999-405524 B319990923 WO 1999-US22119A319990923 US 2001-991116 A120011115
US 2003109528	A1	20030612	US 2002-155002 20020523 US 1999-405524 B319990923 WO 1999-US22119A319990923 US 2001-991085 A120011114
US 2003114454	A1	20030619	US 2002-155311 20020523 US 1999-405524 B319990923 WO 1999-US22119A 19990923 US 2001-991208 A120011114

FAN 2000:227620

PATENT NO.

KIND

DATE

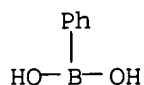
APPLICATION NO.

DATE

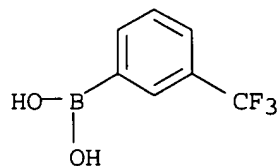
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OS MARPAT 137:201139

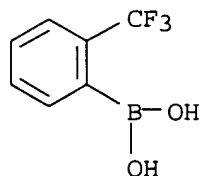
IT 98-80-6, Phenylboronic acid 1423-26-3, 3-Trifluoromethyl
benzeneboronic acid 1423-27-4, 2-(Trifluoromethyl)phenylboronic
acid 87199-16-4, 3-Formylphenylboronic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; prepn. of substituted polycyclic aryl and heteroaryl
tertiary-heteroalkylamines as cholesteryl ester transfer protein
inhibitors for the treatment of atherosclerosis and other coronary
artery disease)
RN 98-80-6 CAPLUS
CN Boronic acid, phenyl- (9CI) (CA INDEX NAME)



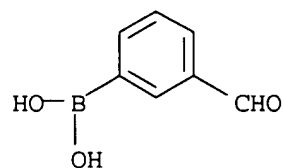
RN 1423-26-3 CAPLUS
CN Boronic acid, [3-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 1423-27-4 CAPLUS
CN Boronic acid, [2-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 87199-16-4 CAPLUS
CN Boronic acid, (3-formylphenyl)- (9CI) (CA INDEX NAME)



GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. I [X = NH, N(OH), N-alkyl; R16 = hydrido; n = 1-2; R1 = haloalkyl, haloalkoxyalkyl; R2 = hydrido, hydroxyalkyl, aryl, aralkyl, alkyl, alkenyl, alkynyl, etc.; R3 = hydrido, alkyl, alkenyl, alkoxyalkyl, aryl, aralkyl, heteroaryl, heteroaralkyl, alkenyloxyalkyl, etc.; Y = bond, alkyl; Z = bond, alkyl; R4, R8-9, R13 = hydrido, halo, haloalkyl, alkyl; R5-7, R10-12 = hydrido, perhaloaryloxy, alkanoylalkyl, alkanoylalkoxy, alkanoyloxy, N-aryl-N-alkylamino, heterocyclalkoxy, etc.; with provisions] were prepd. for the treatment of atherosclerosis and other coronary artery diseases. I are useful as inhibitors of cholesteryl ester transfer protein (CETP; plasma lipid transfer protein-I). Examples include over 700 syntheses and data from two bioassays on CETP activity. For instance, reaction of 3-bromoaniline with 3-(1,1,2,2-tetrafluoroethoxy)benzaldehyde in the presence of NaBH(OAc)3 and AcOH formed the secondary amine (96%). Addn. of 1,1,1-trifluoro-2,3-epoxypropane in CH2Cl2 and Yb(OTf)3 gave the alc. (99%), which was silylated with tert-butyldimethylsilyl trifluoromethanesulfonate (58%). Heating a soln. of the tertiary amine with 4-chloro-3-ethylphenol, Cs2CO3, copper triflate **benzene** complex, and 1-naphthoic acid in 2:1 toluene:dimethylacetamide for 96 h gave II (23%). The latter inhibited CETP activity with IC50 values of 0.034 .mu.M and 0.88 .mu.M, resp., in the reconstituted buffer and human plasma assays.

L25 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:935384 CAPLUS

DN 136:69803

TI Preparation of N-benzothiazol-2-yl amides having affinity toward the A2A adenosine receptor

IN Alanine, Alexander; Flohr, Alexander; Miller, Aubry Kern; Norcross, Roger David; Riemer, Claus

PA F. Hoffmann-La Roche A.-G., Switz.

SO PCT Int. Appl., 160 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001097786	A2	20011227	WO 2001-EP6506	20010608
	WO 2001097786	A3	20021212		
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	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
				EP 2000-113219 A	20000621
EP 1303272		A2	20030423	EP 2001-960284	20010608
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				EP 2000-113219 A	20000621
				WO 2001-EP6506 W	20010608
BR 2001012395		A	20030708	BR 2001-12395	20010608
				EP 2000-113219 A	20000621

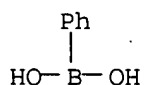
US 2002045615	A1	20020418	WO 2001-EP6506 W	20010608
US 6521754	B2	20030218	US 2001-881252	20010614
US 2003125318	A1	20030703	EP 2000-113219 A	20000621
			US 2002-310508	20021205
			EP 2000-113219 A	20000621
NO 2002005978	A	20021212	US 2001-881252 A3	20010614
			NO 2002-5978	20021212
			EP 2000-113219 A	20000621
US 2003176695	A1	20030918	WO 2001-EP6506 W	20010608
			US 2002-322272	20021218
			EP 2000-113219 A	20000621
			US 2001-881252 A3	20010614

OS MARPAT 136:69803

IT 98-80-6, Phenylboronic acid 1692-15-5, 4-Pyridylboronic acid 1692-25-7, 3-Pyridylboronic acid 3900-89-8, 2-Chlorophenylboronic acid 13331-27-6, 3-Nitrophenylboronic acid 178752-79-9, 3-Dimethylaminophenylboronic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of N-benzothiazolyl amides having affinity toward A2A adenosine receptor)

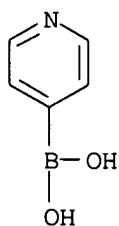
RN 98-80-6 CAPLUS

CN Boronic acid, phenyl- (9CI) (CA INDEX NAME)



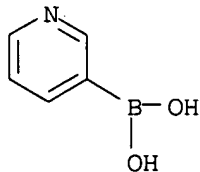
RN 1692-15-5 CAPLUS

CN Boronic acid, 4-pyridinyl- (9CI) (CA INDEX NAME)



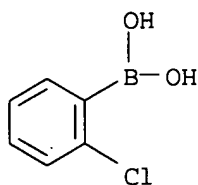
RN 1692-25-7 CAPLUS

CN Boronic acid, 3-pyridinyl- (9CI) (CA INDEX NAME)



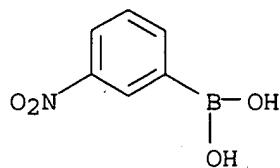
RN 3900-89-8 CAPLUS

CN Boronic acid, (2-chlorophenyl)- (9CI) (CA INDEX NAME)



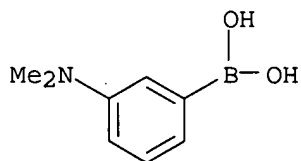
RN 13331-27-6 CAPLUS

CN Boronic acid, (3-nitrophenyl)- (9CI) (CA INDEX NAME)

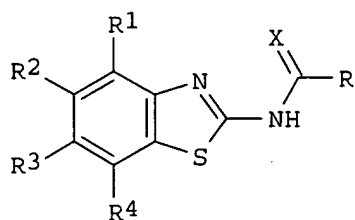


RN 178752-79-9 CAPLUS

CN Boronic acid, [3-(dimethylamino)phenyl]- (9CI) (CA INDEX NAME)



GI



I

AB The title compds. [I; R1 = H, alkyl, alkoxy, etc.; R2, R3 = H, halo, alkyl, alkoxy; R4 = H, alkyl, alkenyl, etc.; R = (un)substituted Ph, (CH2)_n(5-6 membered (non)arom. heterocyclyl, (CH2)_{n+1}Ph, etc.; n = 0-4; X = O, S, H2)], useful for the treatment of diseases related to the adenosine receptor, were prepd. Thus, reacting 2-amino-4-methoxy-7-phenylbenzothiazole with benzoyl chloride in pyridine afforded 69% I [R1 = OMe; R2, R3 = H; R4 = Ph; R = Ph; X = O]. Biol. data for compds. I were given.

L25 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

Patel

9/24/2003>

AN 1999:640160 CAPLUS
 DN 131:271803
 TI Thienyl-, furyl- and pyrrolyl-sulfonamides and derivatives thereof that
 modulate the activity of endothelin
 IN Chan, Ming Fai; Wu, Chengde; Raju, Bore Gowda; Kogan, Timothy; Kois, Adam;
 Verner, Erik Joel; Castillo, Rosario Silvestre; Yalamorri,
 Venkatachalapathi; Balaji, Vitukudi Narayanaiyengar
 PA Texas Biotechnology Corp., USA
 SO U.S., 82 pp., Cont.-in-part of U.S. Ser. No. 477,223.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 12

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5962490	A	19991005	US 1996-721183	19960927
			US 1987-100865	A219870925
			US 1990-416199	A219900515
			US 1993-65202	B219930520
			US 1993-100125	B219930730
			US 1993-100565	A219930730
			US 1993-142159	A219931021
			US 1993-142552	A219931021
			US 1993-142631	B219931021
			US 1994-222287	A219940405
			US 1994-247072	A219940520
			US 1995-417075	A219950404
			US 1995-477223	A219950606
			WO 1996-US4759	A219960404
US 5490962	A	19960213	US 1993-138345	19931018
US 5464853	A	19951107	US 1993-142159	19931021
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US 5514691	A	19960507	US 1993-142552	19931021
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US 5518680	A	19960521	US 1994-200636	19940223
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CA 2173318	AA	19950427	CA 1994-2173318	19941018
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WO 9511007	A1	19950427	US 1994-200636 A 19940223 WO 1994-US11893 19941018
W: CA, JP			
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EP 724428	A1	19960807	US 1993-138345 A 19931018 US 1994-200636 A 19940223
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JP 09502999	T2	19970325	US 1993-138345 A 19931018 US 1994-200636 A 19940223 WO 1994-US11893W 19941018
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WO 9631492	A1	19961010	WO 1996-US4759 19960404
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US 6139574	A	20001031	US 1995-416199 A 19950404 US 1995-417075 A 19950404 US 1995-477223 A 19950606 US 1997-915409 19970820 US 1993-138345 A219931018 US 1994-200636 A219940223
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AU 9745059	A1	19980417	US 1996-721183 A 19960927
AU 736269	B2	20010726	AU 1997-45059 19970926
			US 1996-721183 A 19960927
EP 946552	A1	19991006	WO 1997-US17402W 19970926
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			US 1996-721183 A 19960927
CN 1231664	A	19991013	WO 1997-US17402W 19970926
BR 9711550	A	20000118	CN 1997-198343 19970926
			US 1996-721183 A 19960927
JP 2000507607	T2	20000620	BR 1997-11550 19970926
			US 1996-721183 A 19960927
NZ 334797	A	20010223	WO 1997-US17402W 19970926
			JP 1998-515979 19970926
US 6420567	B1	20020716	US 1996-721183 A 19960927
JP 2002308875	A2	20021023	WO 1997-US17402W 19970926
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EP 1342721	A1	20030910	US 1996-721183 A 19960927
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			US 1997-938325 19970926
NO 9901388	A	19990527	US 1996-721183 A2 19960927
US 6331637	B1	20011218	JP 2002-101613 19970926
			US 1996-721183 A 19960927
			JP 1998-515979 A3 19970926
			EP 2003-7240 19970926
			US 1996-721183 A 19960927
			EP 1997-943629 A3 19970926
			NO 1999-1388 19990322
			US 1996-721183 A 19960927
			WO 1997-US17402W 19970926
			US 1999-274280 19990322
			US 1993-65202 B2 19930520
			US 1993-100125 B2 19930730
			US 1993-100565 B2 19930730
			US 1993-142159 A2 19931021
			US 1993-142552 A2 19931021
			US 1993-142631 B2 19931021
			US 1994-222287 A2 19940405
			US 1994-247072 A2 19940520
			US 1995-416199 B2 19950404
			US 1995-417075 B2 19950404
			US 1995-477223 A2 19950606
			WO 1996-US4759 A2 19960404
KR 2000048681	A	20000725	US 1996-721183 A1 19960927
AU 9935803	A1	19990916	KR 1999-702629 19990326
AU 726595	B2	20001116	US 1996-721183 A 19960927
AU 762258	B2	20030619	AU 1999-35803 19990622
US 2002018816	A1	20020214	AU 1996-55367 A 19960404
			AU 2001-57834 20010806
			AU 1998-61771 A3 19980220
			US 2001-932245 20010817

US 6514518 B2 20030204

US 2002091272 A1 20020711

US 1993-138345 A319931018
 US 1995-464593 A219950605
 US 1998-27290 A119980220
 US 2001-11610 20011105
 WO 1996-US4759 W 19960404
 US 1996-721183 A219960927
 US 1997-938325 A319970926

PATENT FAMILY INFORMATION:

FAN 1995:758642

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9427979	A1	19941208	WO 1994-US5755	19940520
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US 5464853	A	19951107	US 1993-100125	A 19930730
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GB 2285625	A1	19950719	GB 1995-3693	19940520
GB 2285625	B2	19971210		
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			US 1993-100125	A 19930730

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			US 1993-142552 A 19931021
			US 1993-142631 A 19931021
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EP 699191	B1	19981216	
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			US 1993-142159 A 19931021
			US 1993-142552 A 19931021
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			US 1993-100125 A 19930730
			US 1993-100565 A 19930730
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			WO 1994-US5755 W 19940520
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CA 2173318	AA	19950427	CA 1994-2173318 19941018
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			US 1994-200636 A 19940223
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			US 1994-200636 A 19940223
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			US 1993-138345 A 19931018
			US 1994-200636 A 19940223

ES 2154302	T3	20010401	WO 1994-US11893W 19941018
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US 6139574	A	20001031	US 1994-200636 A 19940223
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AU 762258	B2	20030619	AU 1996-55367 A 19960404
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-----	---	-----	-----
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			US 1993-100125 A 19930730
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			US 1993-65202 A 19930520
			US 1993-100125 A 19930730
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			US 1994-222287 A 19940405
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			US 1993-142552 A 19931021
			US 1993-142631 A 19931021
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			WO 1994-US5755 W 19940520
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			US 1994-200636 A 19940223
			WO 1994-US11893W 19941018
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JP 2930420	B2	19990803	
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			US 1994-200636 A 19940223
			WO 1994-US11893W 19941018
AT 198146	E	20010115	AT 1994-930822 19941018
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			US 1994-200636 A 19940223
			WO 1994-US11893W 19941018

ES 2154302	T3	20010401	ES 1994-930822	19941018
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US 5594021	A	19970114	US 1995-477223	19950606
			US 1993-65202	B219930520
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			US 1993-142631	B219931021
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			US 1995-417075	B219950404
US 5962490	A	19991005	US 1996-721183	19960927
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			US 1990-416199	A219900515
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			US 1995-417075	A219950404
			US 1995-477223	A219950606
			WO 1996-US4759	A219960404
US 6030991	A	20000229	US 1996-730633	19961206
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			US 1994-247072	A219940520

AU 9935803 A1 19990916
 AU 726595 B2 20001116
 US 2001036958 A1 20011101
 US 6541498 B2 20030401

AU 762258 B2 20030619
 US 2002018816 A1 20020214
 US 6514518 B2 20030204

FAN 1996:333048
 PATENT NO. KIND DATE

 PI US 5514691 A 19960507

US 5490962 A 19960213
 US 5518680 A 19960521
 US 5591761 A 19970107

CA 2161346 AA 19941208

WO 9427979 A1 19941208

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US 1995-416199 B219950404
 US 1995-417075 B219950404
 US 1995-477223 A219950606
 WO 1996-US4759 A219960404
 US 1996-721183 A119960927
 AU 1999-35803 19990622

AU 1996-55367 A 19960404
 US 2000-749716 20001227

US 1993-65202 B219930520
 US 1993-100125 B219930730
 US 1993-100565 B219930730
 US 1993-142159 A219931021
 US 1993-142552 A219931021
 US 1993-142631 B219931021
 US 1994-222287 A219940405
 US 1994-247072 A219940520
 US 1995-416199 B119950404
 US 1996-730633 A119961206
 US 1999-439802 A119991112
 AU 2001-57834 20010806
 AU 1998-61771 A319980220
 US 2001-932245 20010817

US 1993-138345 A319931018
 US 1995-464593 A219950605
 US 1998-27290 A119980220

APPLICATION NO. DATE

 US 1993-142552 19931021
 US 1993-65202 B219930520
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 US 1993-100565 B219930730
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 US 1994-200636 19940223
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 US 1993-100125 B219930730
 US 1993-100565 B219930730
 US 1993-142159 A219931021
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 US 1993-142631 B219931021
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 US 1993-100125 A 19930730
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 WO 1994-US5755 19940520

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GB 2285625	A1	19950719	WO 1994-US5755	W	19940520
GB 2285625	B2	19971210	GB 1995-3693		19940520

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EP 699191	A1	19960306	EP 1994-918081		19940520
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US 5571821	A	19961105	US 1994-247072		19940520

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US 1993-65202 A 19930520
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 US 1993-100565 A 19930730
 US 1993-142159 A 19931021
 US 1993-142552 A 19931021
 US 1993-142631 A 19931021
 US 1994-222287 A 19940405
 EP 1994-918081 A319940520

AT 174592 E 19990115 AT 1994-918081 19940520
 US 1993-65202 A 19930520
 US 1993-100125 A 19930730
 US 1993-100565 A 19930730
 US 1993-142159 A 19931021
 US 1993-142552 A 19931021
 US 1993-142631 A 19931021
 US 1994-222287 A 19940405

ES 2127397 T3 19990416 ES 1994-918081 19940520
 US 1993-65202 A 19930520
 US 1993-100125 A 19930730
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 US 1993-142631 A 19931021
 US 1994-222287 A 19940405

RU 2151144 C1 20000620 RU 1995-121744 19940520
 US 1993-65202 A 19930520
 US 1993-100125 A 19930730
 US 1993-100565 A 19930730
 US 1993-142159 A 19931021
 US 1993-142552 A 19931021
 US 1993-142631 A 19931021
 US 1994-222287 A 19940405
 WO 1994-US5755 W 19940520

EP 1069114 A2 20010117 EP 2000-119107 19940520
 EP 1069114 A3 20010131

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US 1993-65202 A 19930520
 US 1993-100125 A 19930730
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 US 1993-142159 A 19931021
 US 1993-142552 A 19931021
 US 1993-142631 A 19931021
 US 1994-222287 A 19940405
 EP 1998-109339 A319940520

CA 2173318 AA 19950427 CA 1994-2173318 19941018
 CA 2173318 C 20020101

US 1993-138345 A 19931018
 US 1994-200636 A 19940223

WO 9511007 A1 19950427 WO 1994-US11893 19941018
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US 1993-138345 A 19931018
 US 1994-200636 A 19940223

EP 724428 A1 19960807 EP 1994-930822 19941018
 EP 724428 B1 20001220

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US 1993-138345 A 19931018

JP 09502999	T2	19970325	US 1994-200636 A 19940223
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			JP 1994-512176 19941018
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			WO 1994-US11893W 19941018
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			US 1994-200636 A219940223
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US 6331637	B1	20011218	US 1993-142631 A 19931021
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-----	-----	-----	-----
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US 6613804 B2 20030902

US 1994-247072 A219940520
 US 1995-416199 B219950404
 US 1995-417075 B219950404
 US 1995-477223 A219950606
 US 1997-913331 A319971107

FAN 1996:761669

PATENT NO.

KIND DATE

APPLICATION NO. DATE

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9631492	A1	19961010	WO 1996-US4759	19960404
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			CA 1994-2173318	19941018
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			US 1994-200636 A	19940223
WO 9511007	A1	19950427	WO 1994-US11893	19941018
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EP 724428	B1	20001220		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
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			WO 1994-US11893W	19941018
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JP 2930420	B2	19990803		
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			US 1994-200636 A	19940223
			WO 1994-US11893W	19941018
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			US 1994-200636 A	19940223
			WO 1994-US11893W	19941018
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			US 1994-247072	A219940520

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			US 1995-417075 A 19950404
			US 1995-477226 A 19950607
AU 9655367	A1	19961023	AU 1996-55367 19960404
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			US 1995-416199 A 19950404
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			US 1995-477223 A 19950606
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EP 819125	A1	19980121	EP 1996-912600 19960404
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			US 1995-417075 A 19950404
			US 1995-477223 A 19950606
			WO 1996-US4759 W 19960404
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			US 1995-417075 A 19950404
			WO 1996-US4759 W 19960404
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			US 1995-417075 A 19950404
			US 1995-477223 A 19950606
			WO 1996-US4759 W 19960404
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			US 1995-417075 A 19950404
			US 1995-477223 A 19950606
			WO 1996-US4759 W 19960404
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			US 1987-100865 A219870925
			US 1990-416199 A219900515
			US 1993-65202 B219930520
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			US 1993-142552 A219931021
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			US 1994-247072 A219940520
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			WO 1996-US4759 A219960404
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			US 1994-200636 A219940223
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			US 1995-417075 A 19950404

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			US 1995-417075 B219950404
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			US 1996-721183 A219960927
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WO 9427979	A1	19941208	W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, US, US, US, US, US RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG US 1993-65202 A 19930520 US 1993-100125 A 19930730 US 1993-100565 A 19930730 US 1993-142159 A 19931021 US 1993-142552 A 19931021 US 1993-142631 A 19931021 US 1994-222287 A 19940405 AU 1994-69646 19940520
AU 9469646	A1	19941220	
AU 691813	B2	19980528	US 1993-65202 A 19930520 US 1993-100125 A 19930730 US 1993-100565 A 19930730 US 1993-142159 A 19931021 US 1993-142552 A 19931021 US 1993-142631 A 19931021 US 1994-222287 A 19940405 WO 1994-US5755 W 19940520 GB 1995-3693 19940520
GB 2285625	A1	19950719	
GB 2285625	B2	19971210	US 1993-65202 A 19930520 US 1993-100125 A 19930730 US 1993-100565 A 19930730 US 1993-142159 A 19931021 US 1993-142552 A 19931021 US 1993-142631 A 19931021 US 1994-222287 A 19940405 WO 1994-US5755 W 19940520 EP 1994-918081 19940520
EP 699191	A1	19960306	
EP 699191	B1	19981216	R: AT, BE, CH, DE, DK, ES, FR, GR, IE, IT, LI, LU, MC, NL, PT, SE US 1993-65202 A 19930520 US 1993-100125 A 19930730 US 1993-100565 A 19930730 US 1993-142159 A 19931021 US 1993-142552 A 19931021 US 1993-142631 A 19931021 US 1994-222287 A 19940405 WO 1994-US5755 W 19940520
US 5571821	A	19961105	US 1994-247072 19940520 US 1993-65202 B219930520 US 1993-100125 B219930730 US 1993-100565 B219930730

			US 1993-142159 A219931021
			US 1993-142552 A219931021
			US 1993-142631 B219931021
JP 08510744	T2	19961112	US 1994-222287 A219940405
			JP 1995-500856 19940520
			US 1993-65202 A 19930520
			US 1993-100125 A 19930730
			US 1993-100565 A 19930730
			US 1993-142159 A 19931021
			US 1993-142552 A 19931021
			US 1993-142631 A 19931021
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			WO 1994-US5755 W 19940520
EP 870764	A1	19981014	EP 1998-109339 19940520
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			US 1993-65202 A 19930520
			US 1993-100125 A 19930730
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			US 1993-142159 A 19931021
			US 1993-142552 A 19931021
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			US 1994-222287 A 19940405
AT 174592	E	19990115	EP 1994-918081 A319940520
			AT 1994-918081 19940520
			US 1993-65202 A 19930520
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			US 1993-100565 A 19930730
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RU 2151144	C1	20000620	RU 1995-121744 19940520
			US 1993-65202 A 19930520
			US 1993-100125 A 19930730
			US 1993-100565 A 19930730
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			US 1993-142552 A 19931021
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EP 1069114	A2	20010117	EP 2000-119107 19940520
EP 1069114	A3	20010131	
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			US 1993-65202 A 19930520
			US 1993-100125 A 19930730
			US 1993-100565 A 19930730
			US 1993-142159 A 19931021
			US 1993-142552 A 19931021
			US 1993-142631 A 19931021
			US 1994-222287 A 19940405

CA 2173318	AA	19950427	EP 1998-109339 A319940520
CA 2173318	C	20020101	CA 1994-2173318 19941018
			US 1993-138345 A 19931018
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WO 9511007	A1	19950427	WO 1994-US11893 19941018
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EP 724428	B1	20001220	
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			US 1993-138345 A 19931018
			US 1994-200636 A 19940223
			WO 1994-US11893W 19941018
JP 09502999	T2	19970325	JP 1994-512176 19941018
JP 2930420	B2	19990803	
			US 1993-138345 A 19931018
			US 1994-200636 A 19940223
			WO 1994-US11893W 19941018
AT 198146	E	20010115	AT 1994-930822 19941018
			US 1993-138345 A 19931018
			US 1994-200636 A 19940223
			WO 1994-US11893W 19941018
ES 2154302	T3	20010401	ES 1994-930822 19941018
			US 1993-138345 A 19931018
			US 1994-200636 A 19940223
US 5594021	A	19970114	US 1995-477223 19950606
			US 1993-65202 B219930520
			US 1993-100125 B219930730
			US 1993-100565 B219930730
			US 1993-142159 A219931021
			US 1993-142552 A219931021
			US 1993-142631 B219931021
			US 1994-222287 A219940405
			US 1994-247072 A219940520
			US 1995-417075 B219950404
US 5962490	A	19991005	US 1996-721183 19960927
			US 1987-100865 A219870925
			US 1990-416199 A219900515
			US 1993-65202 B219930520
			US 1993-100125 B219930730
			US 1993-100565 A219930730
			US 1993-142159 A219931021
			US 1993-142552 A219931021
			US 1993-142631 B219931021
			US 1994-222287 A219940405
			US 1994-247072 A219940520
			US 1995-417075 A219950404
			US 1995-477223 A219950606
			WO 1996-US4759 A219960404
US 6030991	A	20000229	US 1996-730633 19961206
			US 1993-65202 B219930520
			US 1993-100125 B219930730
			US 1993-100565 B219930730
			US 1993-142159 A219931021
			US 1993-142552 A219931021

US 6139574	A	20001031	US 1993-142631	B2	19931021
AU 9860585	A1	19980604	US 1994-222287	A2	19940405
AU 724575	B2	20000928	US 1994-247072	A2	19940520
			US 1995-416199	B1	19950404
			US 1997-915409		19970820
			US 1993-138345	A2	19931018
			US 1994-200636	A2	19940223
			AU 1998-60585		19980331
			US 1993-65202	A	19930520
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			US 1993-100565	A	19930730
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			US 1993-142552	A	19931021
			US 1993-142631	A	19931021
			US 1994-222287	A	19940405
US 6331637	B1	20011218	US 1999-274280		19990322
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			US 1993-100125	B2	19930730
			US 1993-100565	B2	19930730
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			US 1994-247072	A2	19940520
			US 1995-416199	B2	19950404
			US 1995-417075	B2	19950404
			US 1995-477223	A2	19950606
			WO 1996-US4759	A2	19960404
AU 9935803	A1	19990916	US 1996-721183	A1	19960927
AU 726595	B2	20001116	AU 1999-35803		19990622
			AU 1996-55367	A	19960404
US 2001036958	A1	20011101	US 2000-749716		20001227
US 6541498	B2	20030401			
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			US 1993-100125	B2	19930730
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			US 1993-142631	B2	19931021
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			US 1994-247072	A2	19940520
			US 1995-416199	B1	19950404
			US 1996-730633	A1	19961206
			US 1999-439802	A1	19991112
AU 762258	B2	20030619	AU 2001-57834		20010806
US 2002018816	A1	20020214	AU 1998-61771	A3	19980220
US 6514518	B2	20030204	US 2001-932245		20010817
			US 1993-138345	A3	19931018
			US 1995-464593	A2	19950605
			US 1998-27290	A1	19980220
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-----	-----	-----	-----	-----	
PI US 5594021	A	19970114	US 1995-477223		19950606
			US 1993-65202	B2	19930520

			US 1993-100125 B219930730
			US 1993-100565 B219930730
			US 1993-142159 A219931021
			US 1993-142552 A219931021
			US 1993-142631 B219931021
			US 1994-222287 A219940405
			US 1994-247072 A219940520
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US 5490962	A	19960213	US 1993-138345 19931018
US 5464853	A	19951107	US 1993-142159 19931021
			US 1993-65202 B219930520
			US 1993-100125 B219930730
			US 1993-100565 B219930730
US 5514691	A	19960507	US 1993-142552 19931021
			US 1993-65202 B219930520
			US 1993-100125 B219930730
			US 1993-100565 B219930730
US 5518680	A	19960521	US 1994-200636 19940223
			US 1993-138345 A219931018
US 5591761	A	19970107	US 1994-222287 19940405
			US 1993-65202 B219930520
			US 1993-100125 B219930730
			US 1993-100565 B219930730
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			US 1993-142552 A219931021
			US 1993-142631 B219931021
US 5571821	A	19961105	US 1994-247072 19940520
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			US 1993-142552 A219931021
			US 1993-142631 B219931021
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			US 1993-138345 A 19931018
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EP 724428	B1	20001220	
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			US 1993-138345 A 19931018
			US 1994-200636 A 19940223
			WO 1994-US11893W 19941018
JP 09502999	T2	19970325	JP 1994-512176 19941018
JP 2930420	B2	19990803	
			US 1993-138345 A 19931018
			US 1994-200636 A 19940223
			WO 1994-US11893W 19941018
AT 198146	E	20010115	AT 1994-930822 19941018
			US 1993-138345 A 19931018
			US 1994-200636 A 19940223
			WO 1994-US11893W 19941018

ES 2154302	T3	20010401	ES 1994-930822	19941018
			US 1993-138345 A	19931018
			US 1994-200636 A	19940223
CA 2217169	AA	19961010	CA 1996-2217169	19960404
			US 1995-416199 A	19950404
			US 1995-417075 A	19950404
			US 1995-477223 A	19950606
CA 2420614	AA	19961010	CA 1996-2420614	19960404
			US 1995-416199 A	19950404
			US 1995-417075 A	19950404
			US 1995-477226 A	19950607
WO 9631492	A1	19961010	WO 1996-US4759	19960404
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
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			US 1995-416199 A	19950404
			US 1995-417075 A	19950404
			US 1995-477223 A	19950606
AU 9655367	A1	19961023	AU 1996-55367	19960404
AU 711968	B2	19991028		
			US 1995-416199 A	19950404
			US 1995-417075 A	19950404
			US 1995-477223 A	19950606
			WO 1996-US4759 W	19960404
EP 819125	A1	19980121	EP 1996-912600	19960404
EP 819125	B1	20030618		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI				
			US 1995-416199 A	19950404
			US 1995-417075 A	19950404
			US 1995-477223 A	19950606
			WO 1996-US4759 W	19960404
CN 1184470	A	19980610	CN 1996-193973	19960404
			US 1995-416199 A	19950404
			US 1995-417075 A	19950404
			US 1995-477223 A	19950606
JP 11507015	T2	19990622	JP 1996-530524	19960404
JP 3233642	B2	20011126		
			US 1995-416199 A	19950404
			US 1995-417075 A	19950404
			US 1995-477223 A	19950606
			WO 1996-US4759 W	19960404
NZ 306734	A	20000128	NZ 1996-306734	19960404
			US 1995-416199 A	19950404
			US 1995-417075 A	19950404
			US 1995-477223 A	19950606
			WO 1996-US4759 W	19960404
NZ 500282	A	20000128	NZ 1996-500282	19960404
			US 1995-416199 A	19950404
			US 1995-417075 A	19950404
			US 1995-477223 A	19950606
EP 1048657	A1	20001102	EP 2000-113076	19960404
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI				
			US 1995-416199 A	19950404

JP 2002030075	A2	20020129	US 1995-417075 A 19950404
			US 1995-477223 A 19950606
			EP 1996-912600 A319960404
			JP 2001-171692 19960404
			US 1995-416199 A 19950404
			US 1995-417075 A 19950404
			US 1995-477223 A 19950606
			JP 1996-530524 A319960404
CA 2288439	C	20030401	CA 1996-2288439 19960404
			US 1995-416199 A 19950404
			US 1995-417075 A 19950404
			US 1995-477223 A 19950606
			CA 1996-2217169A319960404
AT 243203	E	20030715	AT 1996-912600 19960404
			US 1995-416199 A 19950404
			US 1995-417075 A 19950404
			US 1995-477223 A 19950606
			WO 1996-US4759 W 19960404
US 5962490	A	19991005	US 1996-721183 19960927
			US 1987-100865 A219870925
			US 1990-416199 A219900515
			US 1993-65202 B219930520
			US 1993-100125 B219930730
			US 1993-100565 A219930730
			US 1993-142159 A219931021
			US 1993-142552 A219931021
			US 1993-142631 B219931021
			US 1994-222287 A219940405
			US 1994-247072 A219940520
			US 1995-417075 A219950404
			US 1995-477223 A219950606
			WO 1996-US4759 A219960404
TW 492966	B	20020701	TW 1996-85112218 19961004
			US 1995-416199 A 19950404
			US 1995-417075 A 19950404
			US 1995-477223 A 19950606
US 6139574	A	20001031	US 1997-915409 19970820
			US 1993-138345 A219931018
			US 1994-200636 A219940223
NO 9704577	A	19971204	NO 1997-4577 19971003
			US 1995-416199 A 19950404
			US 1995-417075 A 19950404
			US 1995-477223 A 19950606
			WO 1996-US4759 W 19960404
MX 9707630	A	20000331	MX 1997-7630 19971003
			US 1995-416199 A 19950404
			US 1995-417075 A 19950404
			US 1995-477223 A 19950606
			WO 1996-US4759 W 19960404
US 6331637	B1	20011218	US 1999-274280 19990322
			US 1993-65202 B219930520
			US 1993-100125 B219930730
			US 1993-100565 B219930730
			US 1993-142159 A219931021
			US 1993-142552 A219931021
			US 1993-142631 B219931021
			US 1994-222287 A219940405
			US 1994-247072 A219940520

AU 9935803	A1	19990916	US 1995-416199	B2	19950404
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			WO 1996-US4759	A2	19960404
			US 1996-721183	A1	19960927
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			US 1995-464593	A2	19950605
			US 1998-27290	A1	19980220
US 2002095041	A1	20020718	US 2001-6256		20011204
US 6613804	B2	20030902			
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			US 1995-417075	B2	19950404
			US 1995-477223	A2	19950606
			US 1997-913331	A3	19971107
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-----	----	-----	-----	-----	
PI WO 9640002	A1	19961219	WO 1996-US9344	19960605	
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			US 1994-200636	A	19940223
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			US 1994-200636	A	19940223
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			US 1994-200636	A	19940223
			WO 1994-US11893W		19941018
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			US 1994-200636	A	19940223
			WO 1994-US11893W		19941018
ES 2154302	T3	20010401	ES 1994-930822		19941018
			US 1993-138345	A	19931018

US 6176874	B1	20010123	US 1994-200636 A 19940223
			US 1995-477226 19950607
			US 1993-138345 A219931018
CA 2420614	AA	19961010	US 1994-200636 A219940223
			CA 1996-2420614 19960404
			US 1995-416199 A 19950404
			US 1995-417075 A 19950404
			US 1995-477226 A 19950607
CA 2222323	AA	19961219	CA 1996-2222323 19960605
EP 836453	A1	19980422	US 1995-477226 A 19950607
EP 836453	B1	20021009	EP 1996-918272 19960605
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
			US 1995-477226 A 19950607
			WO 1996-US9344 W 19960605
JP 11507256	T2	19990629	JP 1996-501684 19960605
			US 1995-477226 A 19950607
			WO 1996-US9344 W 19960605
AT 225635	E	20021015	AT 1996-918272 19960605
			US 1995-477226 A 19950607
			WO 1996-US9344 W 19960605
US 6139574	A	20001031	US 1997-915409 19970820
			US 1993-138345 A219931018
			US 1994-200636 A219940223
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AU 726595	B2	20001116	
			AU 1996-55367 A 19960404
AU 762258	B2	20030619	AU 2001-57834 20010806
			AU 1998-61771 A319980220
US 2002018816	A1	20020214	US 2001-932245 20010817
US 6514518	B2	20030204	
			US 1993-138345 A319931018
			US 1995-464593 A219950605
			US 1998-27290 A119980220
FAN 1998:210751			
PATENT NO.	KIND	DATE	APPLICATION NO. DATE
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 US 2002018816 A1 20020214
 US 6514518 B2 20030204

AU 1999-35803 19990622

AU 1996-55367 A 19960404
 AU 2001-57834 20010806
 AU 1998-61771 A319980220
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 US 1995-464593 A219950605
 US 1998-27290 A119980220

FAN 1998:603184

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WO 1998-US3257 19980220

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US 1997-42154P P 19970331

US 1997-51042P P 19970627

US 5490962 A 19960213

US 1993-138345 19931018

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US 1993-138345 A219931018

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JP 09502999 T2 19970325

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US 1993-138345 A 19931018

US 1994-200636 A 19940223

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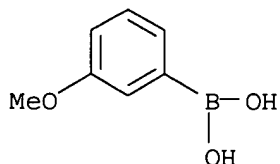
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IT 10365-98-7P, 3-Methoxyphenylboronic acid 16152-51-5P,
4-Isopropylphenylboronic acid 63139-21-9P, 4-Ethylphenylboronic
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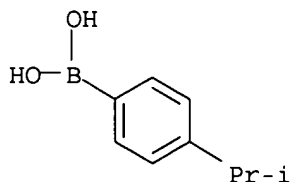
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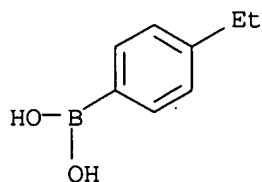
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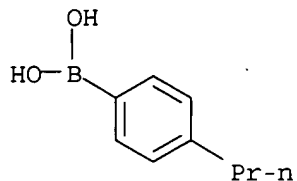
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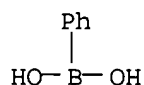
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 acid 16419-60-6, 2-Methylphenylboronic acid 17933-03-8
 , 3-Methylphenylboronic acid 30418-59-8, 3-Aminobenzeneboronic
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 , 3,5-Bis(trifluoromethyl)benzeneboronic acid 94839-07-3,
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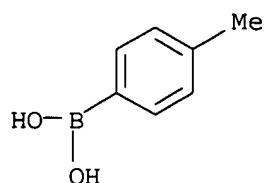
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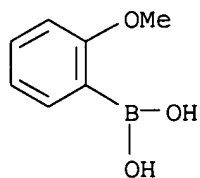
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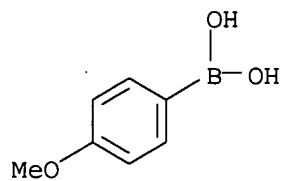
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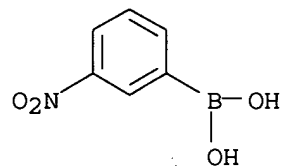
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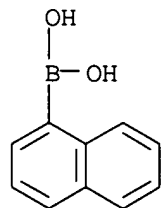
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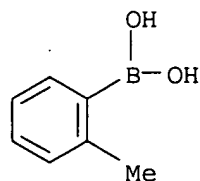
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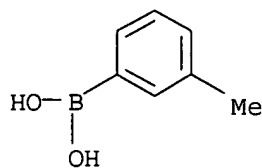
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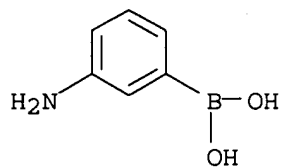
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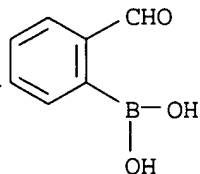
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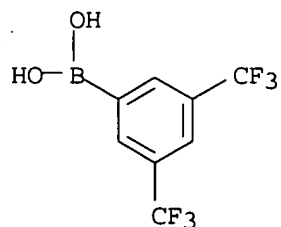
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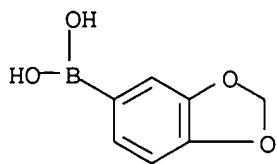
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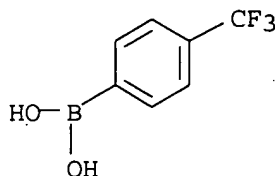
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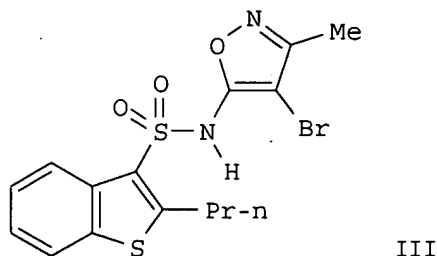
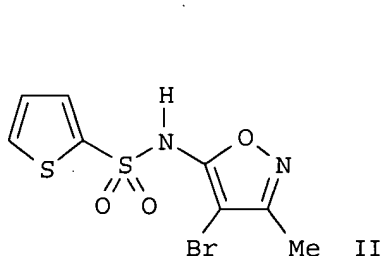


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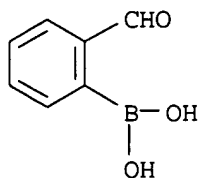
AB Thienyl-, furyl- and pyrrolyl-sulfonamides, and methods for modulating or altering the activity of the endothelin family of peptides, are provided. In particular, the disclosure includes N-(isoxazolyl)thienylsulfonamides, N-(isoxazolyl)furylsulfonamides, and N-(isoxazolyl)pyrrolylsulfonamides, and methods using these sulfonamides for inhibiting the binding of an endothelin peptide to an endothelin receptor. The compds. are described by the formula Ar_2SO_2NHArl [I; Ar_1 = (un)substituted aryl, particularly isoxazolyl; Ar_2 = biol. effective group for inhibiting endothelin binding by $\geq 50\%$ at $\leq 100 \mu M$, notably thienyl, furyl, pyrrolyl, etc.]. Methods for treating endothelin-mediated disorders by administering effective amts. of I or their prodrugs are also provided. Such disorders include hypertension, cardiovascular disease, asthma, hypertension, inflammatory disease, glaucoma, etc. Approx. 190 synthetic examples are given, and numerous example compds. were prepd., tested, and/or claimed. For instance, 5-amino-4-bromo-3-methylisoxazole was treated with NaH in THF, followed by thiophene-2-sulfonyl chloride, to give 34% title compd. II. The similarly prepd. title compd. III had IC_{50} values of $0.024 \mu M$ for ETA receptors and $7.95 \mu M$ for ETB receptors, indicating substantial selectivity for ETA.

RE.CNT 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

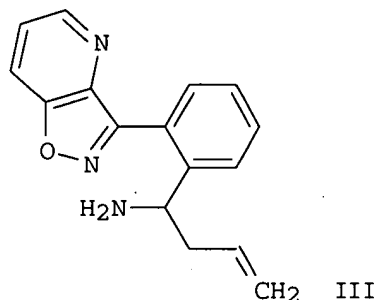
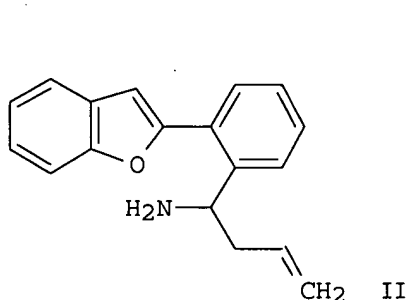
L25 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:262171 CAPLUS
 DN 130:311785
 TI Preparation of heterocyclic benzenemethanamine derivatives as Ih ion channel modulators for use in psychotherapeutics
 IN Dijcks, Fredericus Antonius; Grove, Simon James Anthony; Carlyle, Ian Craig; Thorn, Simon Nicholas; Rae, Duncan Robertson; Ruigt, Gerardus Stephanus Franciscus; Leysen, Dirk
 PA Akzo Nobel N.V., Neth.
 SO PCT Int. Appl., 50 pp.
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	WO 9918941	A3	20000113		
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	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	US 6080773	A	20000627	US 1997-950359 A	19971014
	CA 2305180	AA	19990422	CA 1998-2305180	19981014
				US 1997-950359 A	19971014
				WO 1998-EP6651 W	19981014
	AU 9922663	A1	19990503	AU 1999-22663	19981014
				US 1997-950359 A	19971014
				WO 1998-EP6651 W	19981014
	BR 9813047	A	20000815	BR 1998-13047	19981014
				US 1997-950359 A	19971014
				WO 1998-EP6651 W	19981014
	EP 1035843	A2	20000920	EP 1998-966232	19981014
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
				US 1997-950359 A	19971014
				WO 1998-EP6651 W	19981014
	JP 2003510242	T2	20030318	JP 2000-515576	19981014
				US 1997-950359 A	19971014
				WO 1998-EP6651 W	19981014
	US 6313139	B1	20011106	US 1999-359284	19990722
				US 1997-950359 A3	19971014
	US 2002037885	A1	20020328	US 2001-933192	20010820
				US 1999-359284 A3	19990722
OS	MARPAT 130:311785				
IT	40138-16-7, 2-Formylbenzeneboronic acid				
	RL: RCT (Reactant); RACT (Reactant or reagent)				
	(starting material; prepn. of heterocyclic benzenemethanamine derivs. as Ih channel modulators for psychotherapeutics)				
RN	40138-16-7 CAPLUS				
CN	Boronic acid, (2-formylphenyl)- (9CI) (CA INDEX NAME)				



GI



AB The invention relates to the use of I_h channel modulators, which modulate the hyperpolarization-activated cation current (I_h), in the manuf. of medicaments for use in psychiatry. In particular, it relates to certain novel methanamine derivs. $A-B-(CH_2)_nCH(NH_2)CH_2C(R_3):CR_4R_5$ [I; A = certain (un)substituted and optionally benzo- or pyrido-fused arom. 5- or 6-membered hetero- and carbocycles, e.g., isoxazol-3-yl, or (un)substituted cyclohexylmethyl; B = (un)substituted Ph, furyl, thienyl, benzofuryl, benzothienyl, or naphthyl; $n = 0$ or 1; R_3, R_4, R_5 = halo, alkyl, or H; or R_3R_4 = bond], to processes for their prepn., to pharmaceutical formulations contg. them, and to their use in medical therapy, particularly as antidepressants, anxiolytics, and antipsychotics. Examples include preps. of over 50 compds. I and numerous intermediates, and biol. data for several prepd. and known compds. For instance, 2-(benzo[b]furan-2-yl)benzaldehyde (prepn. given) was treated with $LiN(SiMe_3)_2$ in THF and then with allylmagnesium bromide to give, after workup and acidification, title compd. II.HCl. The similarly prepd. title compd. III (as the maleate) inhibited marble-burying behavior in mice with an ED_{50} of 1.7 mg/kg s.c. This in vivo effect by I correlated with I_h channel inhibition in vitro.

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

116.43

265.00

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

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-8.46

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Patel

9/24/2003>

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NEWS 4	Jul 15	Data from 1960-1976 added to RDISCLOSURE
NEWS 5	Jul 21	Identification of STN records implemented
NEWS 6	Jul 21	Polymer class term count added to REGISTRY
NEWS 7	Jul 22	INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available
NEWS 8	AUG 05	New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
NEWS 9	AUG 13	Field Availability (/FA) field enhanced in BEILSTEIN
NEWS 10	AUG 15	PATDPAFULL: one FREE connect hour, per account, in September 2003
NEWS 11	AUG 15	PCTGEN: one FREE connect hour, per account, in September 2003
NEWS 12	AUG 15	RDISCLOSURE: one FREE connect hour, per account, in September 2003
NEWS 13	AUG 15	TEMA: one FREE connect hour, per account, in September 2003
NEWS 14	AUG 18	Data available for download as a PDF in RDISCLOSURE
NEWS 15	AUG 18	Simultaneous left and right truncation added to PASCAL
NEWS 16	AUG 18	FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation
NEWS 17	AUG 18	Simultaneous left and right truncation added to ANABSTR
NEWS 18	SEP 22	DIPPR file reloaded
NEWS EXPRESS		April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
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* * * * * STN Columbus * * * * *

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=> file reg

COST IN U.S. DOLLARS

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FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 16:14:32 ON 24 SEP 2003

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STRUCTURE FILE UPDATES: 23 SEP 2003 HIGHEST RN 591719-82-3

DICTIONARY FILE UPDATES: 23 SEP 2003 HIGHEST RN 591719-82-3

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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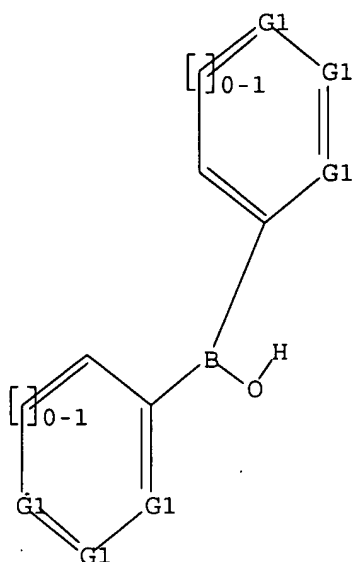
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L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 C,O,S,N,CH,NH

Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss full

FULL SEARCH INITIATED 16:15:08 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 19899 TO ITERATE

100.0% PROCESSED 19899 ITERATIONS

210 ANSWERS

SEARCH TIME: 00.00.01

L2 210 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

148.15

148.36

FILE 'CAPLUS' ENTERED AT 16:15:16 ON 24 SEP 2003

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FILE COVERS 1907 - 24 Sep 2003 VOL 139 ISS 13

FILE LAST UPDATED: 23 Sep 2003 (20030923/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 12

L3 309 L2

=> s 13 and syn thesis and preparation

L4 0 L3 AND SYN THESIS AND PREPARATION

=> s 13 and synthesis

L5 48 L3 AND SYNTHESIS

=> s 15 and lithium

L6 3 L5 AND LITHIUM

=> d 16 fbib hitstr abs total

L6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:381760 CAPLUS

DN 127:121799

TI **Synthesis** and structural characterization of some novel
metalloboroxides bearing boron-bound mesityl and fluoromesityl
substituents: the molecular structure of the first metallaboroxane complex
AU Gibson, Vernon C.; Redshaw, Carl; Clegg, William; Elsegood, Mark R. J.
CS Dep. Chem., Imperial Coll., South Kensington, London, SW7 2AY, UK
SO Polyhedron (1997), 16(15), 2637-2641
CODEN: PLYHDE; ISSN: 0277-5387

PB Elsevier

DT Journal

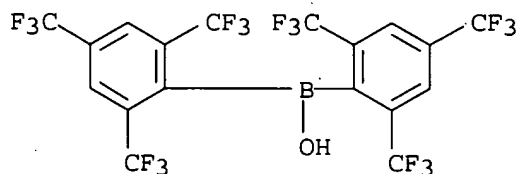
LA English

IT **192823-38-4P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(prepn. and metalation reaction with **lithium** and molybdenum)

RN 192823-38-4 CAPLUS

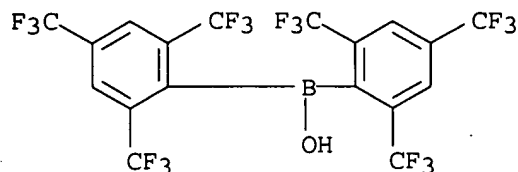
CN Borinic acid, bis[2,4,6-tris(trifluoromethyl)phenyl]- (9CI) (CA INDEX
NAME)

IT **192823-43-1**

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with copper dibromide)

RN 192823-43-1 CAPLUS

CN Borinic acid, bis[2,4,6-tris(trifluoromethyl)phenyl]-, lithium salt (9CI)
(CA INDEX NAME)



● Li

AB Treatment of the new boronous acid $\text{HOB}(\text{fmes})_2$ (1) ($\text{fmes} = 2,4,6-(\text{CF}_3)_3\text{C}_6\text{H}_2$) with BuLi in Et_2O /pentane affords, after work-up, the dimer $[\text{Li}(\text{THF})\text{OB}(\text{fmes})_2]_2$ (2). Reaction of $[\text{Mo}_2(\text{NMe}_2)_6]$ with two equiv. of 1 in toluene gives the amido-boroxide complex $\text{Mo}_2(\text{NMe}_2)_4[\text{OB}(\text{fmes})_2]_2$ (3). Treatment of CuBr_2 with $\text{LiOB}(\text{mes})_2$ ($\text{mes} = 2,4,6-\text{Me}_3\text{C}_6\text{H}_2$) in THF affords after work-up and addn. of excess pyridine the monomeric $\text{Cu}(\text{II})$ boroxide, $\{\text{Cu}[\text{O}_3\text{B}_2(\text{mes})_2]_2[\text{Li}(\text{MeCN})(\text{C}_5\text{H}_5\text{N})]_2\}$ (4), contg. the new ligand $\text{mesB}(\text{O})\text{OB}(\text{O})\text{mes}$, as a result of loss of mesitylene and formation of a B-O-B bond. 2 And 4 were structurally characterized by x-ray crystallog.

L6 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1987:469592 CAPLUS

DN 107:69592

TI **Synthesis** and spectroscopic and structural characterization of derivatives of the quasi-alkoxide ligand $[\text{OBMes}_2]^-$ ($\text{Mes} = 2,4,6-\text{Me}_3\text{C}_6\text{H}_2$)

AU Weese, Kenneth J.; Bartlett, Ruth A.; Murray, Brendan D.; Olmstead, Marilyn M.; Power, Philip R.

CS Dep. Chem., Univ. California, Davis, CA, 95616, USA

SO Inorganic Chemistry (1987), 26(15), 2409-13

CODEN: INOCAJ; ISSN: 0020-1669

DT Journal

LA English

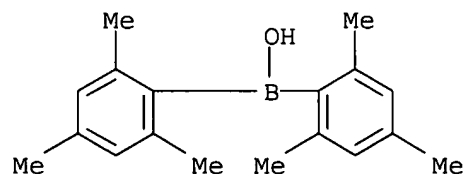
IT **20631-84-9**

RL: PRP (Properties)

(crystal structure of)

RN 20631-84-9 CAPLUS

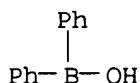
CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



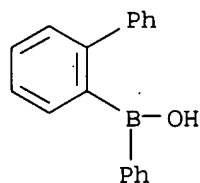
AB Treatment of Mes_2BOH ; ($\text{Mes} = 2,4,6-\text{Me}_3\text{C}_6\text{H}_2$) with BuLi in hexane/ether affords a suspension of LiOBMes_2 , which can be crystd. from THF soln. as the dimer $[\{\text{Li}(\text{THF})\text{OBMes}_2\}_2]$ (II). Treatment of a slurry of anhyd. CoCl_2 in THF with 2 equiv. of II gives $[\text{Co}\{\text{OBMes}_2\}_2\text{Li}(\text{THF})_2\text{Cl}_2\text{Li}(\text{THF})_2]$ (III) in good yield. The x-ray crystal structures of I, II, and III are also reported. The structure of I is the 1st for a diorganoboronous acid, and it exists in the solid state as H-bonded tetramers. II is the 1st structurally characterized example of a metal salt of a boronous acid, and it possesses a dimeric structure previously seen only with very bulky

-OC(tert-Bu)₃ and -OC₆H₂-2,6-tert-Bu₂-4-Me salts. III has Co pseudotetrahedrally bound to 2 OBMe₂ and Cl⁻ ligands, which also form bridges to 2 Li⁺ ions. Each Li⁺ is also pseudotetrahedrally coordinated, with 2 THF donors as the remaining ligands in each case.

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1960:44693 CAPLUS
 DN 54:44693
 OREF 54:8842f-i,8843a-c
 TI **Synthesis** and structure of aromatic boron compounds
 AU Davidson, J. M.; French, C. M.
 CS Queen Mary Coll., London
 SO Journal of the Chemical Society, Abstracts (1960) 191-5
 CODEN: JCSAAZ; ISSN: 0590-9791
 DT Journal
 LA Unavailable
 IT **2622-89-1**, Borinic acid, diphenyl- **131732-34-8**, Borinic acid, 2-biphenylphenyl- (prepn. of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 131732-34-8 CAPLUS
 CN Borinic acid, 2-biphenylphenyl- (6CI) (CA INDEX NAME)



AB 10-Hydroxy-9-oxa-10-boraanthracene (I) was prepd. and its aromatic character demonstrated by ultraviolet spectroscopy. The mechanism of the reaction of Bu metaborate (II) with Grignard and Li reagents was investigated and the conditions under which org. boronous or boronic acid was the predominant product were examd. An attempt to prep. 9-diethylamino-9-borafluorene was also described. PhMgBr (from 15.7 g. PhBr) in 50 ml. Et₂O treated dropwise under reflux with 10 g. phenylboronic anhydride (III) in 75 ml. C₆H₆, refluxed a further 0.5 hr., the mixt. hydrolyzed with 200 ml. 15% HCl, the solvents removed, 20 ml. ligroine added, and the mixt. filtered gave 3.5 g. III, m. 214.degree.. Removal of the solvent from the filtrate gave 11.5 g. diphenylboronous acid (IV), n_D²⁰ 1.5907. IV with HOCH₂CH₂NH₂ formed 65% 2-aminoethyl diphenylboronite, m. 187.degree.. 2-Biphenylphenylboronous acid (V) was similarly prepd. front 7.5 g. III and 1 mole 2-biphenylmagnesium iodide in Et₂O, after hydrolysis, ethanolamine added, and crystd. to give 10.2 g. 2-aminoethyl-2-biphenylphenyl boronite (VI), m. 175.degree. (alc.). VI (3 g.) shaken with 30 ml. Et₂O and 30 ml. 10% HCl gave 2.55 g. V, viscous liquid. Mg (0.7 g.) reacted readily with 7.5 g. 2-iododiphenyl ether and

3 g. II in 60 ml. Et2O after addn. of iodine; after 10 min. of spontaneous refluxing and 0.5 hr. of heating the mixt. was hydrolyzed with 100 ml. 15% HCl, the acid products extd. with 5% NaOH, and the basic ext. acidified to give 1.5 g. o-phenoxyphenylboronic acid, m. 114.degree. (C6H6-cyclohexane). 9-Bromophenanthrene (5 g.) and 2.5 g. II gave 2.45 g. 9-phenanthrylboronic acid, m. 324.degree. (H2O). 2,2'-Dilithiodiphenyl ether in 156 ml. Et2O treated during 10 min. with 6.7 g. II in 25 ml. Et2O, the soln. refluxed 2 hrs., and hydrolyzed with 100 ml. 10% HCl gave 5.9 g. 10-hydroxy-9-oxa-10-boraanthracene (VII), m. 285.degree. (C6H6-cyclohexane). The same soln. of 2,2'-dilithiodiphenyl ether (600 ml.) and 200 ml. ether soln. contg. 37 g. BF3-Et2O simultaneously added to 100 ml. Et2O under N during 45 min. and the mixt. refluxed 1 hr. gave 11.1 g. VII. 2-Biphenylmagnesium iodide (from 10 g. 2-iodobiphenyl) in 50 ml. Et2O treated rapidly with 3.5 g. II in 15 ml. Et2O, and the soln. refluxed 0.5 hr. gave 5 g. 2-biphenylboronic acid (VIII), m. 121-3.degree. (H2O), resolidified to the anhydride, m. 195.degree.. VIII (3.9 g.) esterified with alc. by azeotropic distn. gave 3.4 g. di-Et ester, b4 136-8.degree., n20D 1.5444. Di-Bu 2-biphenylboronate (IX) was prepd. by direct esterification of the Grignard reaction mixt. after hydrolysis. 2-Iodobiphenyl (26.5 g.) and 8.8 g. II afforded 13.3 g. IX, b0.6 149-51.degree., n20D 1.5310. IX (7.5 g.) heated 18 hrs. at 140.degree. with 11 g. PCl5 gave 4.35 g. 2-biphenylboron dichloride, b0.25 95-6.degree., n20D 1.5661. 2,2'-Dilithiobiphenyl (from 4 g. 2,2'-diiodobiphenyl) in 60 ml. Et2O slowly treated with 0.9 g. II in 15 ml. Et2O under N, the soln. refluxed 15 min., hydrolyzed with dil. NH4Cl, and the soln. azeotropically distd. with HOCH2CH2NH2 and PhMe gave 1.3 g. bis(2-aminoethyl)2-biphenyl boronate, m. 134.degree. (C6H6). A sample was hydrolyzed with dil. HCl to the acid which was dried to form the anhydride, m. 206.degree. (cyclohexane).

=> d his

(FILE 'HOME' ENTERED AT 16:14:11 ON 24 SEP 2003)

FILE 'REGISTRY' ENTERED AT 16:14:32 ON 24 SEP 2003

L1 STRUCTURE UPLOADED
L2 210 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 16:15:16 ON 24 SEP 2003

L3 309 S L2
L4 0 S L3 AND SYN THESIS AND PREPARATION
L5 48 S L3 AND SYNTHESIS
L6 3 S L5 AND LITHIUM

=> s l5 and magnesium

L7 2 L5 AND MAGNESIUM

=> d l7 fbib hitstr abs total

L7 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:150618 CAPLUS

DN 138:190256

TI Process for the preparation of aryl and alkyl boron compounds in micro reactors

IN Koch, Manfred; Wehle, Detlef; Scherer, Stefan; Forstinger, Klaus; Meudt, Andreas; Hessel, Volker; Werner, Bernd; Loewe, Holger

PA Clariant Gmbh, Germany

SO Eur. Pat. Appl., 12 pp.

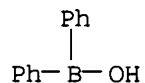
CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1285924	A1	20030226	EP 2002-16149	20020720
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	DE 10140857	A1	20030306	DE 2001-10140857A	20010821
	US 2003100792	A1	20030529	US 2002-210807	20020801
				DE 2001-10140857A	20010821
	JP 2003128677	A2	20030508	JP 2002-240103	20020821
				DE 2001-10140857A	20010821
IT	2622-89-1P , Diphenylborinic acid				
	RL: SPN (Synthetic preparation); PREP (Preparation)				
	(synthesis of trialkyl- and triaryl-substituted boranes, boronic acids, and tetraalkylborates in flow-through reactors))				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



AB Manuf. of arylboron and alkylboron compds., of general formulas RnBX_{3-n} and $\text{R}_4\text{B} \cdot \text{MgY}^+$, as well as $\text{RnB}(\text{OH})_{3-n}$ (prepd. by hydrolysis of RnBX_{3-n}), are prepd. from the corresponding arylmagnesium halides and alkylmagnesium halides, R-Mg-Y , and BX_3 , in which $\text{X} = \text{F}, \text{Cl}, \text{Br}, \text{I}, \text{C1-5-alkoxy}, \text{N,N-di(C1-5-alkyl)amino}, \text{or (C1-5-alkyl)thio}; n = 1, 2, \text{ or } 3; \text{ and } \text{R} = \text{C1-6-alkyl}, (\text{RO-}, \text{RR}'\text{N-}, \text{Ph-}, \text{substituted Ph-}, \text{F-}, \text{ and RS-}), \text{ and (C1-6-alkyl)-substituted phenyl; and (C1-6-alkyl-, C1-6-alkoxy-, C1-5-thioalkyl-, silyl- F-, Cl-, dialkylamino-, diarylamino-, and alkylarylamino)-substituted Ph, in addn. to heterocycloaryl substituents with one or two heteroatoms (e.g., N, O, or S). The compds. are synthesized in through-flow microreactors in flow channels of diam. 0.25 .mu. to 1.5 mm.}$

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1995:444247 CAPLUS
DN 122:213862
TI Preparation of sesamol
IN Kumamoto, Nobumitsu; Uchibori, Yukitaka; Umeno, Masayuki
PA Hokko Chem Ind Co, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06345756	A2	19941220	JP 1993-156387	19930603

JP 2614812

B2 19970528

JP 1993-156387 19930603

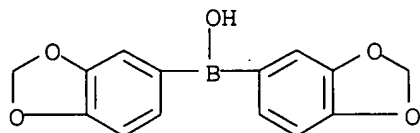
OS CASREACT 122:213862; MARPAT 122:213862

IT 161800-66-4P

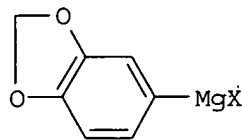
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (prepn. of sesamol)

RN 161800-66-4 CAPLUS

CN Borinic acid, bis(1,3-benzodioxol-5-yl)- (9CI) (CA INDEX NAME)



GI



II

AB Sesamol (I) is prepd. in several steps from benzenemagnesium halide II [X = halo]. Thus, reaction of II [X = Br] with tri-Bu borate, followed by treatment with aq. 10% sulfuric acid soln., and reaction with H₂O₂, gave 80.2% I.

=> s grignard reaction and lithium and magnesium

L8 194 GRIGNARD REACTION AND LITHIUM AND MAGNESIUM

=> s 18 and phenyl

L9 70 L8 AND PHENYL

=> s 18 and phenyl and chloride

L10 30 L8 AND PHENYL AND CHLORIDE

=> s 18 and pyridine

L11 10 L8 AND PYRIDINE

=> s 18 and pyrimidine

L12 1 L8 AND PYRIMIDINE

=> s 18 and pyridazine

L13 0 L8 AND PYRIDAZINE

=> s 18 and furan

L14 2 L8 AND FURAN

=> s 18 and thien

L15 1 L8 AND THIEN

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(FILE 'HOME' ENTERED AT 16:14:11 ON 24 SEP 2003)

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L1 STRUCTURE UPLOADED

L2 210 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 16:15:16 ON 24 SEP 2003

L3 309 S L2

L4 0 S L3 AND SYN THESIS AND PREPARATION

L5 48 S L3 AND SYNTHESIS

L6 3 S L5 AND LITHIUM

L7 2 S L5 AND MAGNESIUM

L8 194 S GRIGNARD REACTION AND LITHIUM AND MAGNESIUM

L9 70 S L8 AND PHENYL

L10 30 S L8 AND PHENYL AND CHLORIDE

L11 10 S L8 AND PYRIDINE

L12 1 S L8 AND PYRIMIDINE

L13 0 S L8 AND PYRIDAZINE

L14 2 S L8 AND FURAN

L15 1 S L8 AND THIEN

=> s l8 and chloride

L16 84 L8 AND CHLORIDE

=> s l16 and phenyl and pyridine and furan and thien and pyrimidine

L17 0 L16 AND PHENYL AND PYRIDINE AND FURAN AND THIEN AND PYRIMIDINE

=> s l8 and pyridine and chliride

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=> s l8 and pyrimidine and chloride

L19 1 L8 AND PYRIMIDINE AND CHLORIDE

=> s l8 and furan and chloride

L20 1 L8 AND FURAN AND CHLORIDE

=> s l8 and thien and chloride

L21 1 L8 AND THIEN AND CHLORIDE

=> d l16 fbib hitstr abs total

L16 ANSWER 1 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:656756 CAPLUS

DN 139:197491

TI Process for preparing optically active azole derivatives

IN Suzuki, Tsuneji; Tsunoda, Hidetoshi

PA Mitsui Chemicals, Inc., Japan

SO PCT Int. Appl., 53 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003068758	A1	20030821	WO 2003-JP1308	20030207

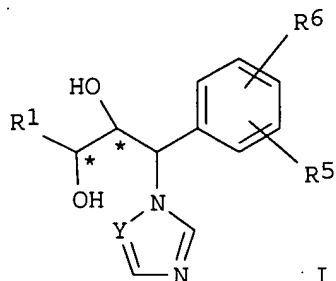
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2002-37966 A 20020215

JP 2002-236368 A 20020814

GI



AB The title compds. I [R1 = (un)substituted alkyl, etc.; R5, R6 = halo, etc.; the asterisk indicates asym. carbon], useful as pharmaceutical and agrochem. intermediates, are prepd. in a multistep process involving a highly diastereoselective arylation reaction of an optically active azole alkyl ketone deriv. which is prepd. from triazolylacetic acid (or salt thereof) and an optically active deriv. of 2-hydroxypropionic acid ester. Thus, (2S,3R)-2-(2,4-difluorophenyl)-1-(1H-1,2,4-triazol-1-yl)-2,3-butanediol was prepd. by the title process.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 2 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:882089 CAPLUS

DN 137:384754

TI Preparation of exo-biperidens via the coupling of exo-silylenolethers with N-methylenepiperidinium salts

IN Grosse, Markus; Klein, Peter; Thyges, Marco; Weber, Klaus Martin; Vilsmaier, Elmar

PA Abbott Gmbh & Co. KG, Germany

SO Ger. Offen., 12 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10124453	A1	20021121	DE 2001-10124453	20010518

WO 2002096874

A2

20021205

WO 2002-EP5497

20020517

WO 2002096874

A3

20030130

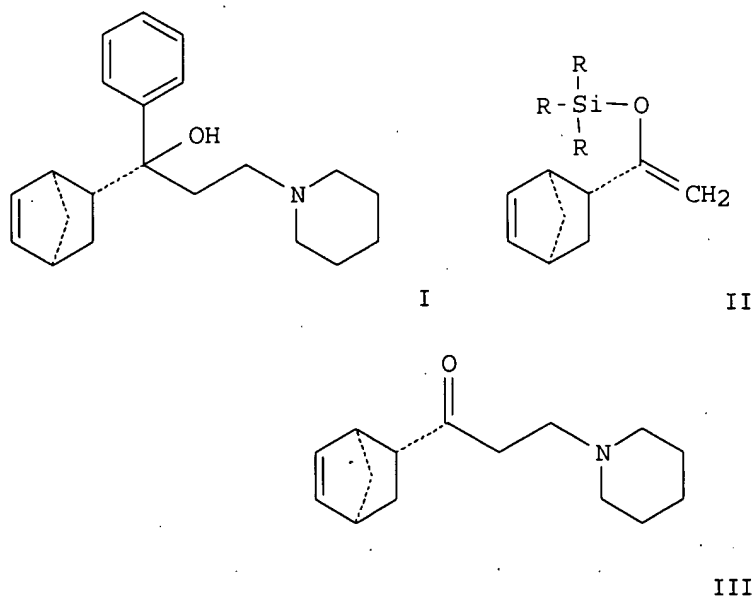
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 2001-10124453A 20010518

OS CASREACT 137:384754; MARPAT 137:384754

GI



AB A process for the prepn. of exo-biperidens I via the coupling of exo-silylenolethers II [R = alkyl, cycloalkyl] with N-methylenepiperidinium salts is disclosed. For example, coupling of exo-silylenolether II (R = Me), e.g., prepd. from cyclopentadiene and 3-buten-2-one in 2-steps, and N-methylenepiperidinium **chloride**, followed by the addn. of chlorophenylmagesium afforded a diastereomeric mixt. of exo-biperidens I. A key step of the process is the NaOMe mediated isomerization of endo-1-(bicyclo[2.2.1]hept-5-en-2-yl)ethan-2-one to the exo isomer.

L16 ANSWER 3 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:590289 CAPLUS

DN 137:140630

TI Preparation of substituted silanes via organometallic catalysts mediated reaction of alkyl **magnesium** compounds with halosilane

IN Sims, Philip Franklin; Schwindeman, James Anthony
 PA FMC Corporation, USA
 SO U.S., 6 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6429327	B1	20020806	US 2000-487420 US 1999-116722PP	20000120 19990121

OS CASREACT 137:140630; MARPAT 137:140630

AB Processes for the synthesis of substituted silanes from alkyl **magnesium** compds. using a mixt. of catalysts. The catalyst systems include both a copper halide and a salt of a Group IA, IIA, or IVA element or a transition metal. Thus, CuCl/KCN catalyzed reaction of t-butylmagnesium **chloride** with Me₂SiCl₂ in THF gave 91% t-butylchlorodimethylsilane.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 4 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:880027 CAPLUS

DN 136:166979

TI Disparate Roles of Chiral Ligands and Molecularly Imprinted Cavities in Asymmetric Catalysis and Chiral Poisoning

AU Koh, Jeong Hwan; Larsen, Andrew O.; White, Peter S.; Gagne, Michel R.

CS Department of Chemistry, University of North Carolina, Chapel Hill, NC, 27599-3290, USA

SO Organometallics (2002), 21(1), 7-9

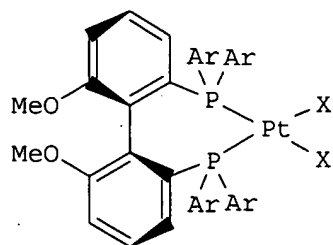
CODEN: ORGND7; ISSN: 0276-7333

PB American Chemical Society

DT Journal

LA English

GI



AB The activation of molecularly imprinted metal complexes generated Lewis acid catalysts, prep'd. via copolym. of metallomonomers (I; X = Cl, X₂ = O,O-dideprotonated (S)-, (R)-BINOL; Ar = p-C₆H₄C(CH₃):CH₂) with EDMA (ethylene dimethacrylate), for the ene reaction, each of which contains a chiral diphosphine ligand and a chiral BINOL-shaped cavity. Poisoning expts. with (R)- and (S)-BINAM (where (R)- and (S)-BINAM = (R)- and (S)-1,1'-binaphthyl-2,2'-diamine, resp.) indicated that while the chiral cavity can differentiate the chiral poisons, it is the chiral diphosphine ligand which controls the enantioselectivity of the ene product.

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 5 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:662289 CAPLUS
DN 135:371815
TI Zirconium Phosphinimide Complexes: Synthesis, Structure, and Deactivation Pathways in Ethylene Polymerization Catalysis
AU Yue, Nancy; Hollink, Emily; Guerin, Fred; Stephan, Douglas W.
CS School of Physical Sciences Chemistry and Biochemistry, University of Windsor, Windsor, ON, N9B 3P4, Can.
SO Organometallics (2001), 20(21), 4424-4433
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 135:371815
AB Zirconium phosphinimide complexes of the form $\text{CpZr}(\text{NP-t-Bu}_3)\text{Cl}_2$ (1) and $\text{Cp}^*\text{Zr}(\text{NPR}_3)\text{Cl}_2$ ($\text{R} = \text{i-Pr}$ (2), t-Bu (3)) were readily prepd. under ambient conditions via the reaction of $[\text{CpZrCl}_3]_n$ or Cp^*ZrCl_3 with the appropriate trialkylphosphinimide lithium salt (R_3PNLi). A series of derivs. were readily obtained via alkylation or arylation of the above dihalide precursors. These included $\text{CpZr}(\text{NP-t-Bu}_3)\text{Me}_2$ (4), $\text{Cp}^*\text{Zr}(\text{NPR}_3)\text{Me}_2$ ($\text{R} = \text{i-Pr}$ (5), t-Bu (6)), $\text{CpZr}(\text{NP-t-Bu}_3)\text{Ph}_2$ (7), $\text{Cp}^*\text{Zr}(\text{NPR}_3)\text{Ph}_2$ ($\text{R} = \text{i-Pr}$ (8), t-Bu (9)), $\text{CpZr}(\text{NP-t-Bu}_3)\text{Bn}_2$ (10), $\text{CpZr}(\text{NP-t-Bu}_3)(\text{CH}_2\text{SiMe}_3)_2$ (11), $\text{Cp}^*\text{Zr}(\text{NPR}_3)(\text{allyl})_2$ ($\text{R} = \text{i-Pr}$ (12), t-Bu (13)), $\text{Cp}^*\text{Zr}(\text{NPR}_3)(\text{Cp})\text{Cl}$ ($\text{R} = \text{i-Pr}$ (14), t-Bu (15)), and $\text{Cp}^*\text{Zr}(\text{NPR}_3)(\text{CH}_2\text{C}(\text{CH}_3)\text{C}(\text{CH}_3)\text{CH}_2)$ ($\text{R} = \text{i-Pr}$ (16), t-Bu (17)). Reaction of 17 with the borane $\text{B}(\text{C}_6\text{F}_5)_3$ yielded the zwitterionic and cationic complexes $\text{Cp}^*\text{Zr}(\text{NP-t-Bu}_3)(\text{CH}_2\text{C}(\text{CH}_3)\text{C}(\text{CH}_3)\text{CH}_2\text{B}(\text{C}_6\text{F}_5)_3)$ (18) and $\text{Cp}^*\text{Zr}(\text{NP-t-Bu}_3)(\text{THF})(\text{CH}_2\text{C}(\text{CH}_3)\text{C}(\text{CH}_3)\text{CH}_2\text{B}(\text{C}_6\text{F}_5)_3)$ (19). A no. of the above compds. were screened for their potential as catalyst precursors in ethylene polymn. In general, upon activation with methylaluminoxane, the resulting catalysts exhibit low activity. Efforts to understand the deactivation pathway for these zirconium catalysts involved investigating the interactions of catalyst precursors with activators. For example, reaction of 4 with the borane $\text{B}(\text{C}_6\text{F}_5)_3$ leads to aryl group transfer and formation of catalytically inactive $\text{CpZr}(\text{NP-t-Bu}_3)(\text{C}_6\text{F}_5)_2$ (20). Interactions with MAO were modeled via reaction with AlMe_3 . The Zr clusters $(\text{Cp}^*\text{Zr})_4(\mu\text{-Cl})_5(\text{Cl})(\mu\text{-CH}_2)$ (21) and $(\text{Cp}^*\text{Zr})_5(\mu\text{-Cl})_6(\mu\text{-CH}_3)$ (22) were two of the products that were characterized from these reactions. The isolation of 21 and 22 infers that aryl for Me exchange, ligand abstraction, and C-H bond activation may be catalyst deactivation pathways.

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 6 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:321295 CAPLUS
DN 135:92230
TI A detailed ab initio MO investigation of the diastereoselectivities of five- and six-membered ring ketones bearing O and S, C and S, and C and O substituents at the α -carbon
AU Yadav, V. K.; Sriramurthy, V.
CS Department of Chemistry, Indian Institute of Technology, Kanpur, 208 016, India
SO Tetrahedron (2001), 57(18), 3987-3995
CODEN: TETRAB; ISSN: 0040-4020

PB Elsevier Science Ltd.

DT Journal

LA English

AB The steric effects in the geometry on cation-chelation predict the exptl. pi.-selectivity of 1-oxa-4-thiaspiro[4.5]decan-6-one, 1-oxa-4-thiaspiro[4.4]nonan-6-one, 1-thiaspiro[4.4]nonan-6-one, and 1-oxaspiro[4.4]nonan-6-one. The reversal in the selectivity of 1-oxa-4-thiaspiro[4.4]nonan-6-one on redn. with (i-Bu)₂AlH appears to be a direct consequence of the steric interactions arising from the large i-Bu substituents. The antiperiplanar effects are not as significant as the steric effects. An ab initio MO investigation of the diastereoselectivities five- and six-membered ring ketones bearing O and S, C and S, and C and O substituents with the application of the cation-complexation model is described.

RE.CNT 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 7 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:493491. CAPLUS

DN 133:89250

TI Method for producing substituted cyclopentadienes from the reaction of organometallic compounds with substituted 2-cyclopentenones followed by hydrolysis and dehydration with strong mineral acids

IN Bingel, Carsten

PA Targor G.m.b.H., Germany

SO PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000041987	A1	20000720	WO 2000-EP15	20000104
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
				DE 1999-19900732A	19990112
				DE 1999-19935885A	19990730
	DE 19900732	A1	20000713	DE 1999-19900732	19990112
	DE 19935885	A1	20010201	DE 1999-19935885	19990730
	EP 1078905	A1	20010228	EP 2000-113883	20000630
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
				DE 1999-19935885A	19990730
	JP 2001064210	A2	20010313	JP 2000-215576	20000717
				DE 1999-19935885A	19990730

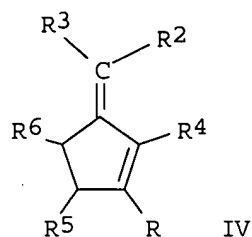
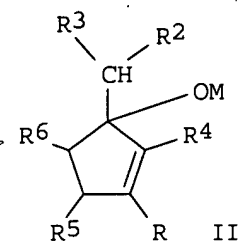
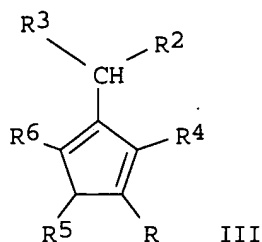
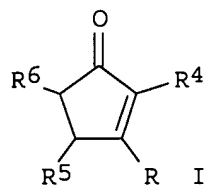
PATENT FAMILY INFORMATION:

FAN 2000:475955

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19900732	A1	20000713	DE 1999-19900732	19990112
	WO 2000041987	A1	20000720	WO 2000-EP15	20000104
	W: JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
				DE 1999-19900732A	19990112
				DE 1999-19935885A	19990730

OS CASREACT 133:89250; MARPAT 133:89250

GI



AB In the title process, 3-substituted-2-cyclopenten-1-ones (I; R = C1-20 hydrocarbyl; R4-R6 = H, alkyl, aryl) (e.g., 3-methyl-2-cyclopenten-1-one) are reacted with organometallic compds. R2(R3)M [M = Li, MgCl, MgBr, MgI; R2, R3 = H, (un)branched alkyl, aryl] (e.g., n-BuLi) to form alkoxide intermediates (II) which are protonated, hydrolyzed, and dehydrated with aq. solns. of strong mineral acids (e.g., aq. sulfuric acid) to form the desired products (III; 1-butyl-3-methylcyclopentadiene) and byproducts (IV) which are both extd. into an org. phase (e.g., toluene) and sep. worked up.

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 8 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:475955 CAPLUS

DN 133:89249

TI Procedure for the production of 1,3-disubstituted cyclopentadienes by the condensation of organometallic compounds with 3-hydrocarbyl-2-cyclopenten-1-ones followed by the dehydrative treatment of the intermediates with strong mineral acids

PA Targor G.m.b.H., Germany

SO Ger. Offen., 6 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI DE 19900732 A1 20000713 DE 1999-19900732 19990112
 WO 2000041987 A1 20000720 WO 2000-EP15 20000104
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 PT, SE

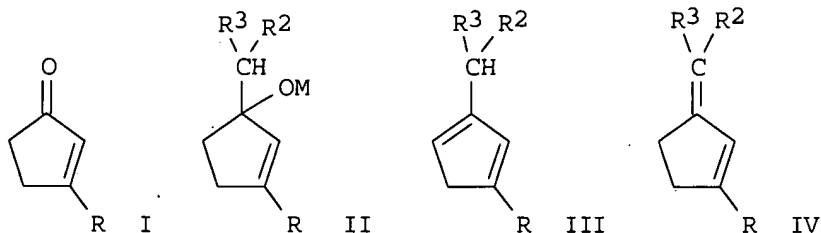
DE 1999-19900732A 19990112
 DE 1999-19935885A 19990730

PATENT FAMILY INFORMATION:

FAN 2000:493491

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000041987	A1	20000720	WO 2000-EP15	20000104
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 1999-19900732A 19990112				
DE 1999-19935885A 19990730				
DE 19900732	A1	20000713	DE 1999-19900732	19990112
DE 19935885	A1	20010201	DE 1999-19935885	19990730
EP 1078905	A1	20010228	EP 2000-113883	20000630
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 1999-19935885A 19990730				
JP 2001064210	A2	20010313	JP 2000-215576	20000717
DE 1999-19935885A 19990730				

OS CASREACT 133:89249; MARPAT 133:89249
 GI



AB In the title process, 3-hydrocarbyl-2-cyclopenten-1-ones (I; R = C1-20 hydrocarbyl, alkyl, aryl) (e.g., 3-methyl-2-cyclopenten-1-one) are reacted with organometallic compds. R²(R³)CHM [M = Li, MgCl, MgBr, MgI; R², R³ = H, (un)branched alkyl, aryl] (e.g., n-BuLi), and the metal oxide intermediate (II) subjected to hydrolysis and dehydration by reaction with aq. solns. of strong mineral acids (e.g., aq. sulfuric acid) to give the desired "endo" product (III; e.g., 1-butyl-3-methylcyclopentadiene) and the undesired "exo" byproducts (IV).

L16 ANSWER 9 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:811200 CAPLUS

DN 132:35338

TI Process and catalysts for the symmetric disubstitution of carboxylic acid amides into substituted amines using Grignard reagents or organolithium compounds

IN Buchholz, Herwig; Welz-Biermann, Urs; De Meijere, Armin

PA Merck Patent GmbH, Germany

SO PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 8

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9965862	A1	19991223	WO 1999-EP4254	19990618
W: JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19827161	A1	19991223	DE 1998-19827161A	19980618
EP 1087933	A1	20010404	DE 1998-19827161	19980618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, FI			EP 1999-932702	19990618
			DE 1998-19827161A	19980618
			WO 1999-EP4254 W	19990618
EP 1088029	A1	20010404	EP 1999-932703	19990618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, FI			DE 1998-19827161A	19980618
			DE 1998-19827163A	19980618
			DE 1998-19827164A	19980618
			DE 1998-19827165A	19980618
			DE 1998-19827166A	19980618
			DE 1998-19827167A	19980618
			DE 1998-19844194A	19980926
JP 2002518365	T2	20020625	WO 1999-EP4254 W	19990618
			JP 2000-554689	19990618
			DE 1998-19827161A	19980618
JP 2003524588	T2	20030819	WO 1999-EP4254 W	19990618
			JP 2000-554208	19990618
			DE 1998-19827161A	19980618
			DE 1998-19827163A	19980618
			DE 1998-19827164A	19980618
			DE 1998-19827165A	19980618
			DE 1998-19827166A	19980618
			DE 1998-19827167A	19980618
			DE 1998-19844194A	19980926
US 6515180	B1	20030204	WO 1999-EP4256 W	19990618
			US 2001-719815	20010307
			DE 1998-19827161A	19980618
			WO 1999-EP4254 W	19990618

PATENT FAMILY INFORMATION:

FAN 1999:811195

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9965857	A1	19991223	WO 1999-EP4249	19990618
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DE 19827165	A1	19991223	DE 1998-19827165A	19980618
EP 1087932	A1	20010404	DE 1998-19827165	19980618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, FI			EP 1999-932701	19990618
			DE 1998-19827165A	19980618
			WO 1999-EP4249 W	19990618
JP 2002518360	T2	20020625	JP 2000-554684	19990618
			DE 1998-19827165A	19980618
			WO 1999-EP4249 W	19990618

JP 2003524588	T2	20030819	JP 2000-554208	19990618
			DE 1998-19827161A	19980618
			DE 1998-19827163A	19980618
			DE 1998-19827164A	19980618
			DE 1998-19827165A	19980618
			DE 1998-19827166A	19980618
			DE 1998-19827167A	19980618
			DE 1998-19844194A	19980926
			WO 1999-EP4256 W	19990618
FAN 1999:811196				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 9965858	A1	19991223	WO 1999-EP4250	19990618
W: JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
			DE 1998-19827163A	19980618
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WO 1999-EP4256 W 19990618
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DE 1998-19827164A 19980618
US 2001-719810 A320010420

JP 2003524588 T2 20030819

US 2003009029 A1 20030109

OS CASREACT 132:35338; MARPAT 132:35338

AB Amides (e.g., diethylformamide) are sym. disubstituted on the geminal carbonyl-C atom of the amide using organolithium compds. or Grignard reagents (e.g., phenylmagnesium bromide) to give substituted amines [e.g., (diphenylmethyl)diethylamine], which reaction is conducted in the presence of a metal alcoholate (e.g., titanium tetraisopropoxide) catalyst and optional organosilane (e.g., tert-butyldimethyl trichloride) cocatalyst.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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AN 1999:811198 CAPLUS

DN 132:35461

TI Method for catalytically disubstituting carboxylic acid amides with at least one Grignard reagent in the manufacture of substituted amines

IN Buchholz, Herwig; Welz-Biermann, Urs; De Meijere, Armin

PA Merck Patent G.m.b.H., Germany

SO PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 8

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PATENT FAMILY INFORMATION:

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FAN 1999:811196

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WO 9965318 A3 20030417 DE 1998-19844194A 19980926
WO 1999-EP4256 19990618
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PT, SE

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DE 1998-19827164A 19980618
US 2001-719810 A320010420
US 2003009029 A1 20030109

OS CASREACT 132:35461; MARPAT 132:35461

AB Carboxylic acid amides (e.g., diethylformamide) are disubstituted on the geminal carbonyl-C atom into an amine [e.g., N-(dicyclopentylmethyl)-N,N-diethylamine] in high yield and selectivity by the nucleophilic reaction of an amide using at least one Grignard reagent (e.g., cyclopentylmagnesium bromide) in the presence of a metal alcoholate (e.g., titanium tetraisopropoxide) used as a catalyst and in the presence of an organosilane (e.g., trimethylsilyl chloride) as a cocatalyst.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 11 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:811197 CAPLUS

DN 132:35336

TI Process and catalysts for the symmetrical disubstitution of carboxylic acid amides into substituted amines using Grignard reagents or organolithium compounds

IN Buchholz, Herwig; Welz-Biermann, Urs

PA Merck Patent G.m.b.H., Germany

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9965859	A1	19991223	WO 1999-EP4251	19990618
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JP 2002518362	T2	20020625	WO 1999-EP4251 W	19990618
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			JP 2000-554208	19990618
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US 6420302	B1	20020716	WO 1999-EP4256 W	19990618
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US 2003009029	A1	20030109	WO 1999-EP4251 W	19990618
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PATENT FAMILY INFORMATION:

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 DE 1998-19827163A 19980618
 WO 1999-EP4250 W 19990618
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 DE 1998-19827163A 19980618
 WO 1999-EP4250 W 19990618
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 WO 1999-EP4256 W 19990618
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FAN 1999:811199
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FAN 1999:811202			
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PT, SE

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DE 1998-19844194A 19980926
WO 1999-EP4256 W 19990618
US 2003009029 A1 20030109 US 2002-162257 20020605
DE 1998-19827164A 19980618
US 2001-719810 A320010420

OS CASREACT 132:35336; MARPAT 132:35336
AB Amides (e.g., diethylformamide) are sym. disubstituted on the geminal carbonyl-C atom of the amide using organolithium compds. or Grignard reagents (e.g., phenylmagnesium bromide) to give substituted amines [e.g., (diphenylmethyl)diethylamine], which reaction is conducted in the presence of a metal dioxide (e.g., titanium dioxide) catalyst and a metal alcoholate or organosilane (e.g., chlorotrimethylsilane) cocatalyst.
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 12 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:811196 CAPLUS

DN 132:35335

TI Method and catalysts for the disubstitution of carboxylic acid amides with two different organolithium or Grignard reagents in the preparation of substituted amines

IN Buchholz, Herwig; Welz-Biermann, Urs

PA Merck Patent G.m.b.H., Germany

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 8

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9965858	A1	19991223	WO 1999-EP4250	19990618
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PATENT FAMILY INFORMATION:

FAN 1999:811195

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 US 2003009029 A1 20030109 US 2002-162257 20020605
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 US 2001-719810 A320010420

OS CASREACT 132:35335; MARPAT 132:35335

AB Amides (e.g., N-formylmorpholine) are disubstituted on the geminal carbonyl-C atom of the amide using two different Grignard reagents (e.g., phenylmagnesium bromide and methylmagnesium bromide) to give substituted amines [e.g., 1-[(1-phenyl)ethyl]morpholine], which reaction is conducted in the presence of a metal alcoholate (e.g., tetraisopropoxytitanium) catalyst optionally with an organosilane (e.g., chlorotrimethylsilane) cocatalyst.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 13 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:811195 CAPLUS

DN 132:35334

TI Catalytic titanium(IV) dioxide-induced geminal asymmetric disubstitution of carboxylic acid amides with organolithium or Grignard reagents for the preparation of substituted amines

IN Buchholz, Herwig; Welz-Biermann, Urs

PA Merck Patent GmbH, Germany

SO PCT Int. Appl., 34 pp.
 CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 8

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9965857	A1	19991223	WO 1999-EP4249	19990618
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 WO 1999-EP4256 W 19990618

PATENT FAMILY INFORMATION:

FAN 1999:811196

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US 6512145	B1	20030128	WO 1999-EP4256 W	19990618
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FAN 1999:811199				
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PT, SE			
			DE 1998-19827161A 19980618
			DE 1998-19827163A 19980618
			DE 1998-19827164A 19980618
			DE 1998-19827165A 19980618
			DE 1998-19827166A 19980618
			DE 1998-19827167A 19980618
			DE 1998-19844194A 19980926
EP 1087929	A1	20010404	EP 1999-929282 19990618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, FI			DE 1998-19827161A 19980618
			DE 1998-19827163A 19980618
			DE 1998-19827164A 19980618
			DE 1998-19827165A 19980618
			DE 1998-19827166A 19980618
			DE 1998-19827167A 19980618
			DE 1998-19844194A 19980926
			WO 1999-EP4257 W 19990618
JP 2002518366	T2	20020625	JP 2000-554690 19990618
			DE 1998-19827161A 19980618
			DE 1998-19827163A 19980618
			DE 1998-19827164A 19980618
			DE 1998-19827165A 19980618
			DE 1998-19827166A 19980618
			DE 1998-19827167A 19980618
			DE 1998-19844194A 19980926
			WO 1999-EP4257 W 19990618
JP 2003524588	T2	20030819	JP 2000-554208 19990618

				DE 1998-19827161A 19980618
				DE 1998-19827163A 19980618
				DE 1998-19827164A 19980618
				DE 1998-19827165A 19980618
				DE 1998-19827166A 19980618
				DE 1998-19827167A 19980618
				DE 1998-19844194A 19980926
				WO 1999-EP4256 W 19990618
US 2003009029	A1	20030109		US 2002-162257 20020605
				DE 1998-19827164A 19980618
				US 2001-719810 A320010420
FAN 1999:811202				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 9965864	A2	19991223	WO 1999-EP4258	19990618
WO 9965864	A3	20030522		
W: JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
			DE 1998-19827161A 19980618	
			DE 1998-19827163A 19980618	
			DE 1998-19827164A 19980618	
			DE 1998-19827165A 19980618	
			DE 1998-19827166A 19980618	
			DE 1998-19827167A 19980618	
			DE 1998-19844194A 19980926	
DE 19827161	A1	19991223	DE 1998-19827161 19980618	
DE 19827163	A1	19991223	DE 1998-19827163 19980618	
DE 19827164	A1	19991223	DE 1998-19827164 19980618	
DE 19827165	A1	19991223	DE 1998-19827165 19980618	
DE 19827166	A1	19991223	DE 1998-19827166 19980618	
DE 19844194	A1	19991223	DE 1998-19844194 19980926	
			DE 1998-19827167A1 19980618	
WO 9965855	A2	19991223	WO 1999-EP4255	19990618
W: JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
			DE 1998-19827161A 19980618	
			DE 1998-19827163A 19980618	
			DE 1998-19827164A 19980618	
			DE 1998-19827165A 19980618	
			DE 1998-19827166A 19980618	
			DE 1998-19827167A 19980618	
			DE 1998-19844194A 19980926	
WO 9965318	A2	19991223	WO 1999-EP4256	19990618
WO 9965318	A3	20030417		
W: JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
			DE 1998-19827161A 19980618	
			DE 1998-19827163A 19980618	
			DE 1998-19827164A 19980618	
			DE 1998-19827165A 19980618	
			DE 1998-19827166A 19980618	
			DE 1998-19827167A 19980618	
			DE 1998-19844194A 19980926	
JP 2003524588	T2	20030819	JP 2000-554208	19990618
			DE 1998-19827161A 19980618	

DE 1998-19827163A 19980618
DE 1998-19827164A 19980618
DE 1998-19827165A 19980618
DE 1998-19827166A 19980618
DE 1998-19827167A 19980618
DE 1998-19844194A 19980926
WO 1999-EP4256 W 19990618
US 2002-162257 20020605
DE 1998-19827164A 19980618
US 2001-719810 A320010420
US 2003009029 A1 20030109

OS CASREACT 132:35334; MARPAT 132:35334

AB Amides (e.g., N-formylpiperidine) are disubstituted on the geminal carbonyl-C atom of the amide using two different Grignard reagents (e.g., phenylmagnesium bromide and ethylmagnesium bromide) to give substituted amines [e.g., 1-[(1-phenyl)propyl]piperidine], which reaction is conducted in the presence of a titanium dioxide catalyst and a metal alcoholate or organosilane (e.g., chlorotrimethylsilane) cocatalyst.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

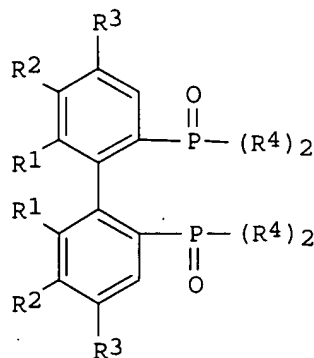
L16 ANSWER 14 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:796156 CAPLUS
DN 132:151849
TI Grignard reagent formation from aryl halides. There is no aryl radical intermediate along the dominant reaction channel
AU Garst, J. F.; Ronald Boone, J.; Webb, L.; Easton Lawrence, K.; Baxter, J. T.; Ungvary, F.
CS Department of Chemistry, The University of Georgia, Athens, GA, USA
SO Inorganica Chimica Acta (1999), 296(1), 52-66
CODEN: ICHAA3; ISSN: 0020-1693
PB Elsevier Science S.A.
DT Journal
LA English
AB For Grignard reagent formation from Mg and an aliph. halide RX in an ether solvent, a route through R.bul. is the major pathway. Part of the evidence is that byproducts of side reactions of R.bul. are formed in substantial yields. Similar reactions of Ph and o-(3-butenyl)phenyl halides give very low (sometimes trace) yields of byproducts derived from side reactions of R.bul., despite the fact that aryl R.bul. are much more reactive than alkyl in both solvent attack and cyclization [o-(3-butenyl)phenyl case]. **Grignard reactions** of aryl halides appear to proceed largely through a pathway along which R.bul. is not an intermediate. This is probably a dianion pathway, i.e., one along which RX²⁻ is an intermediate or transition state.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

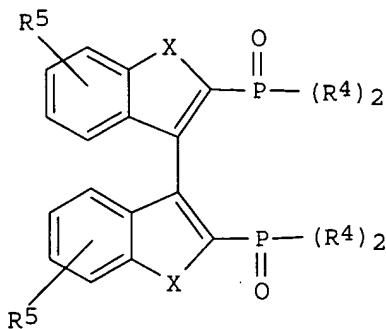
L16 ANSWER 15 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:425600 CAPLUS
DN 131:44958
TI Process for the manufacture of bis(phosphine oxide) and bis(phosphonate) compounds
IN Foricher, Joseph; Schmid, Rudolf
PA F. Hoffmann-La Roche A.-G., Switz.
SO Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 926152	A1	19990630	EP 1998-123996	19981217
	EP 926152	B1	20020911		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6162929	A	20001219	EP 1997-122720 A	19971223
				US 1998-212646	19981215
				EP 1997-122720 A	19971223
	AT 223923	E	20020915	AT 1998-123996	19981217
				EP 1997-122720 A	19971223
	ES 2182211	T3	20030301	ES 1998-123996	19981217
				EP 1997-122720 A	19971223
	JP 11246576	A2	19990914	JP 1998-364044	19981222
				EP 1997-122720 A	19971223
	CN 1224019	A	19990728	CN 1998-125786	19981223
				EP 1998-123996 A	19981217
OS	CASREACT 131:44958; MARPAT 131:44958				
GI					



I



II

AB A process for the manuf. of bisphosphine oxide compds. I and II (R1, R2 = H, C1-8 alkyl, (un)substituted Ph, C1-8 alkoxy, phenyloxy, benzyloxy, halo, di-C1-8 alkylamino; R1R2 = fused ring, etc.; R3, R5 = H, C1-8 alkyl, (un)substituted Ph, C1-8 alkoxy, (un)substituted phenyloxy, benzyloxy, halo, di-C1-8 alkylamino; R4 = C1-8 alkoxy, (un)substituted phenyloxy, C1-8 alkyl, C3-7 cycloalkyl, (un)substituted Ph, naphthyl, heteroaryl, etc.; X = O, S) and bisphosphonates as intermediates for the prodn. of bisphosphine ligands, in which in a single step process (a) a phosphine oxide compd. is reacted in an org. solvent at -70.degree.-20.degree. with 0.5-3 equiv. of a **lithium** or **magnesium** amide compd., (b) 0.5-3 equiv. of oxidatively-acting metal salt or metal salt complex are added to the mixt. obtained in stage (a) in a temp. range of -70.degree.-20.degree., with a racemate of a bisphosphine oxide compd. being obtained; (c) a racemate cleavage is carried out if desired; and (d) the bisphosphonates obtained in stage (b) or (c) are converted into

bisphosphine oxides. Thus, **Grignard reaction** of 3-bromoanisole with P-chlorodiphenylphosphine in THF followed by H₂O₂ oxidn. gave 88.8% (3-methoxyphenyl)diphenylphosphine oxide. Coupling reaction of (3-methoxyphenyl)diphenylphosphine oxide in the presence of FeCl₃ gave title compd. I (R₁ = OMe, R₂, R₃ = H, R₄ = Ph).

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 16 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:407058 CAPLUS

DN 131:58656

TI Preparation of biphenyls having active substituents such as cyano group

IN Takahashi, Junya; Tsurushima, Masaaki

PA Mikuni Pharma Ind., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

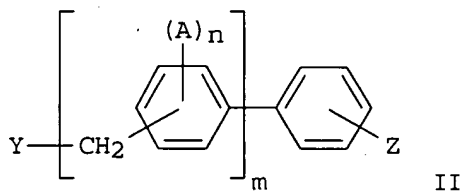
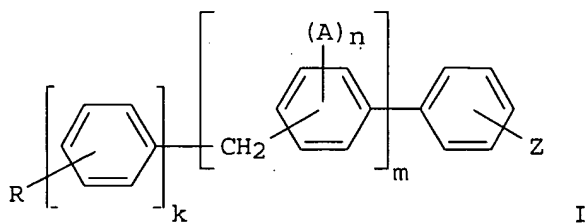
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11171799	A2	19990629	JP 1997-356313	19971208
				JP 1997-356313	19971208
OS	CASREACT 131:58656; MARPAT 131:58656				
GI					



AB Title compds. I [R = aryl, (aryl-contg.) hydrocarbyl; Z = active substituents; A = halo; k, m = 0, 1; k + m = 1; n = 0-2] are prepd. by reaction of R(C₆H₄)_kMgX (R, k = same as I; X = halo) with aryl compds. II (Z, A, n, m = same as I; Y = leaving group) in the presence of Cu salts. 4'-Bromomethylbiphenyl-4-carbonitrile was condensed with BuMgCl in the presence of Li₂CuCl₄ in THF at room temp. overnight to give 89.5% 4'-pentylbiphenyl-4-carbonitrile with 98.9% purity.

L16 ANSWER 17 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:311426 CAPLUS

DN 130:338554

TI Preparation of substituted poly(arylenvinylenes) for use in
electroluminescence
IN Spreitzer, Hubert; Kreuder, Willi; Becker, Heinrich; Schenk, Hermann; Yu,
Nu
PA Hoechst A.-G., Germany
SO Ger. Offen., 28 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19748814	A1	19990506	DE 1997-19748814	19971105
	CA 2308573	AA	19990520	CA 1998-2308573	19981022
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
	WO 9924526	A1	19990520	WO 1998-EP6722	19981022
	W: CA, CN, JP, KR, MX, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
				DE 1997-19748814A	19971105
EP	1029019	A1	20000823	EP 1998-952737	19981022
	R: AT, CH, DE, FR, GB, IT, LI, NL				
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
JP	2001522926	T2	20011120	JP 2000-520525	19981022
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
US	2002064680	A1	20020530	US 2000-530890	20000822
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
US	2003088050	A1	20030508	US 2002-185061	20020628
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
				US 2000-530890 B1	20000822
AB	Poly(arylenevinylenes) bearing aryl substituents of specified structure, useful in electroluminescent lighting and displays, are prepd. Coupling di-Me bromoterephthalate with [3-[(3,7-dimethyloctyl)oxy]phenyl]boronic acid gave 98% di-Me 2-[3-[(3,7-dimethyloctyl)oxy]phenyl]terephthalate, redn. of which with LiAlH ₄ gave 82% corresponding bishydroxymethyl deriv., treatment of which with SOCl ₂ gave 70% 2,5-bis(chloromethyl)-3'-[(3,7- dimethyloctyl)oxy]biphenyl (I). Polymn. of 4.00 mmol each I and 2,5-bis(chloromethyl)-3'-[(3,7-dimethyloctyl)oxy]-4-methoxybiphenyl in dioxane contg. tert-BuOK at 99.degree. gave 44% copolymer with wt.-av. mol. wt. 1,350,000. Use of the products in LED's is exemplified.				

L16 ANSWER 18 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1997:448001 CAPLUS
DN 127:67403
TI Borate coinitiators for photopolymerization
IN Cunningham, Allan Francis; Kunz, Martin; Kura, Hisatoshi
PA Ciba-Geigy A.-G., Switz.
SO Ger. Offen., 41 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	DE 19648313	A1	19970528	DE 1996-19648313	19961121
	CH 691595	A	20010831	CH 1995-3342	A 19951124
	AU 9671795	A1	19970529	CH 1996-2822	19961114
	AU 717137	B2	20000316	CH 1995-3342	A 19951124
	FR 2741622	A1	19970530	AU 1996-71795	19961115
	FR 2741622	B1	19981204	CH 1995-3342	A 19951124
	CA 2191050	AA	19970525	FR 1996-14198	19961121
	NL 1004597	A1	19970527	CH 1995-3342	A 19951124
	NL 1004597	C2	19980107	CA 1996-2191050	19961122
	GB 2307474	A1	19970528	CH 1995-3342	A 19951124
	GB 2307474	B2	19991215	NL 1996-1004597	19961122
	CN 1158854	A	19970910	CH 1995-3342	A 19951124
	CN 1092199	B	20021009	GB 1996-24338	19961122
	BE 1010761	A5	19990105	CH 1995-3342	A 19951124
	ES 2126499	A1	19990316	CN 1996-121743	19961122
	ES 2126499	B1	19991116	CH 1995-3342	A 19951124
	AT 9602040	A	20000115	BE 1996-975	19961122
	AT 406775	B	20000825	CH 1995-3342	A 19951124
	JP 09188685	A2	19970722	ES 1996-2464	19961122
	BR 9605697	A	19980818	CH 1995-3342	A 19951124
	TW 494123	B	20020711	AT 1996-2040	19961122
				CH 1995-3342	A 19951124
				JP 1996-329208	19961125
				CH 1995-3342	A 19951124
				BR 1996-5697	19961125
				CH 1995-3342	A 19951124
				TW 1996-85114799	19961130
				CH 1995-3342	A 19951124

PATENT FAMILY INFORMATION:

FAN 1999:582606

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5952152	A	19990914	US 1996-755380	19961121
	US 6210863	B1	20010403	US 1999-314391	19990519
				CH 1995-3342	A 19951124
				US 1996-755380	A319961121

OS MARPAT 127:67403

AB Monoborates of specified structure, bearing .gtoreq.2 aryl groups substituted in the ortho position, are very active coinitiators for photopolymn. The reaction of 60 mmol PhBr with 1.1 equiv. BuLi and 60 mmol fluorodimesitylborane in THF at room temp. gave 86% dimesitylphenylborane, reaction of which with MeLi in Et2O at 5.degree. followed by addn. of aq. Me4N+ Cl- gave 95% tetramethylammonium dimesitylmethylphenylborate (I). The use of I as a coinitiator in photocurable coatings is exemplified.

L16 ANSWER 19 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:739997 CAPLUS

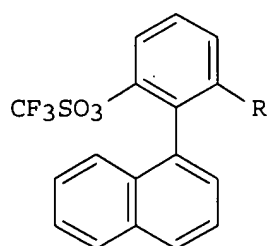
DN 126:18658

TI Preparation of optically active biaryl compounds from 1-[2,6-

(bistrifluoromethanesulfonyloxy)phenyl]naphthalene and Grignard reagents

IN Hayashi, Tamio
 PA Sumitomo Chemical Co, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08245551	A2	19960924	JP 1995-51091	19950310
				JP 1995-51091	19950310
OS	CASREACT 126:18658; MARPAT 126:18658				
GI					



I

AB Optically active biaryl compds. I (R = alkyl, alkenyl, aryl, aralkyl) are prepd. by treatment of I (R = CF₃SO₃) with RMgX (R = same as above; X = halo) in the presence of optically active metal complex catalysts prepd. from transition metal compds. and optically active R₂R₃NCHR₁CH₂PR₄2 [R₁-R₃ = lower alkyl, aryl, aralkyl; R₄ = (cyclo)alkyl, alkoxy, (halo-substituted) Ph; NR₂R₃ may form ring]. I (R = CF₃SO₃) was treated with PhMgBr, LiBr, and (S)-PhCH₂CH(NMe₂)CH₂PPh₂-Pd complex at 0.degree. for 48 h to give 74% (S)-I (R = Ph) (84% e.e).

L16 ANSWER 20 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:264957 CAPLUS

DN 124:317470

TI Process for preparing silacyclohexane-based liquid crystal compounds

IN Kinsho, Takeshi; Shimizu, Takaaki; Ogiwara, Tsutomu; Kaneko, Tatsushi; Nakashima, Mutsuo

PA Shin-Etsu Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 696591	A1	19960214	EP 1995-304845	19950711
	EP 696591	B1	20010314		
	R: DE, GB				
	JP 08081474	A2	19960326	JP 1994-182903 A	19940712
				JP 1995-198006	19950711
				JP 1994-182903 A	19940712
	US 5514824	A	19960507	US 1995-501522	19950712

EP 765880
R: DE, GB

A1 19970402

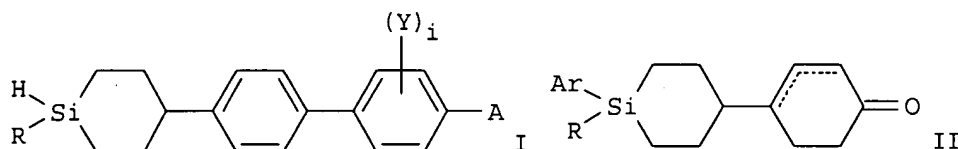
JP 1994-182903 A 19940712

EP 1995-115429 19950929

JP 1994-182903 19940712

OS CASREACT 124:317470; MARPAT 124:317470

GI



AB A process for prepg. compds. I (R, Y, A = org. residues; i = 0-3) via reacting a ketone compd. II (Ar = org. residue) with an organometallic reagent and subsequently dehydrating, oxidizing, and Ar removal to give I is described. Thus, **Grignard reaction** of 4-(4-pentyl-4-phenyl-4-silacyclohexyl)-3-cyclohexenone with trans-(4-propylcyclohexyl)phenylmagnesium **chloride** in THF followed by p-toluenesulfonic acid-mediated dehydration and subsequent p-chloranil oxidative dehydrogenation gave 4-(4-pentyl-4-phenyl-4-silacyclohexyl)-4'-(trans-4-propylcyclohexyl)biphenyl (III). Chlorination of III with BrCl in CCl₄ followed by LiAlH₄ redn. in THF gave title compd., trans,trans-4-(4-pentyl-4-silacyclohexyl)-4'-(4-propylcyclohexyl)biphenyl. I are useful in liq. crystal displays.

L16 ANSWER 21 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:11315 CAPLUS

DN 124:88136

TI Metallocene derivative catalyst components for polymerization of olefins, their manufacture, and manufacture of polyolefins using them

IN Murata, Masahide; Nakajima, Masashi; Kanazawa, Seizaburo; Ishihara, Takeshi; Ueki, Satoshi

PA Tonen Corp, Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

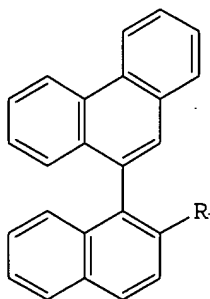
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07268029	A2	19951017	JP 1994-81101	19940329
				JP 1994-81101	19940329

OS MARPAT 124:88136

AB The components are manufd. by prepg. metallocene derivs. contg. electron-donating groups, and by contacting them with Lewis-acid solid components. The polyolefins are manufd. by (co)polymg. olefins in the presence of the catalyst components and aluminoxanes. Thus, N,N-bis(trimethylsilyl)-3-bromopropylamine [prepd. from 3-bromopropylamine and N,N'-bis(trimethylsilyl)urea] and Cl₂SiCp₂ (Cp = cyclopentadienyl; prepd. from SiCl₄ and CpLi) were Grignard reacted, treated with BuLi and ZrCl₄, and desilylated to give a metallocene ligand, which was treated with a Mg-contg. solid carrier [prepd. from Mg, Bu₂O, I, BuCl, Et orthoformate, and SiCl₄] to obtain a metallocene-supported catalyst. Ethylene was polymd. in the presence of 10 mg thus obtained catalyst and

Me aluminoxane to give a polymer with bulk d. 0.9 g/mL.

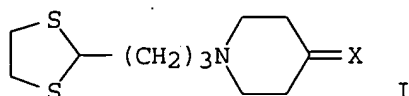
L16 ANSWER 22 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:162997 CAPLUS
DN 120:162997
TI Absolute stereochemistry of 1-(9-phenanthryl)-2-naphthoic acid as
determined by CD and x-ray methods
AU Harada, Nobuyuki; Hattori, Tetsutaro; Suzuki, Takatsugu; Okamura, Atsuko;
Ono, Hiroshi; Miyano, Sotaro; Uda, Hisashi
CS Inst. Chem. React. Sci., Tohoku Univ., Sendai, 980, Japan
SO Tetrahedron: Asymmetry (1993), 4(8), 1789-92
CODEN: TASYE3; ISSN: 0957-4166
DT Journal
LA English
GI



AB The abs. configurations of acid and alc. (R)-(-)-I (R = CO₂H, CH₂OH) both were assigned on the basis of CD data. This conclusion disagrees with previously assigned configurations based on the NMR of (S)-.alpha.-methylbenzyl 1-(9-phenanthryl)-2-naphthoate [I; R = (S)-CO₂CHMePh] (T. Suzuki, et al. 1990). To confirm the abs. configuration based on the CD method, an x-ray crystallog. structure anal. was carried out. The coupling reaction of (1R,3R,4S)-menthyl 1-[(1R,3R,4S)-menthyloxy]-2-naphthoate with 9-phenanthrylmagnesium bromide gave menthyl ester (S)-(+)-I (R = CO₂R₁, R₁ = menthyl), which was hydrolyzed to afford acid (S)-(+)-I (R = CO₂H) in 61% enantiomeric excess (ee). Acid **chloride** (S)-(+)-I (R = COCl) (61% ee) was reacted with the anion of (1S,2R,4R)-(-)-2,10-camphorsultam (R₂-H), generated with sodium hydride. The diastereomeric mixt. of amides formed was sepd. by HPLC on silica gel. Amide (S)-(-)-I, (R = CO₂R₂) (II) was obtained as a major diastereoisomer from the first eluted fraction; redn. of II with LiAlH₄ yielded alc. (S)-(+)-I (R = CH₂OH). The second eluted fraction was evapd. to give amide (R)-(-)-I (R = CO₂R₂) (III), which was subjected to x-ray crystallog. anal.; the abs. configuration of III was assigned by the (1S,2R,4R)-(-)-2,10-camphorsultam part of the mol. From the chem. conversion and x-ray results the abs. configurations were detd.

L16 ANSWER 23 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:134337 CAPLUS
DN 120:134337
TI Synthesis of haloperidol ethanedithioketal HIV-1 protease inhibitors:
magnesium chloride facilitated addition of Grignard reagents

AU Sui, Zhihua; De Voss, James J.; DeCamp, Dianne L.; Li, Jia; Craik, Charles S.; Ortiz de Montellano, Paul R.
CS Dep. Pharm. Chem., Univ. California, San Francisco, CA, 94143-0446, USA
SO Synthesis (1993), (8), 803-8
CODEN: SYNTBF; ISSN: 0039-7881
DT Journal
LA English
GI



AB Haloperidol ketals and ethanedithioketals, e.g. I ($X = O, OCH_2CH_2O$), of interest as HIV-1 protease inhibitors were synthesized by addn. of organolithium and organomagnesium reagents to ketone precursors already contg. the ketal or thioketal functionality. Addn. of Grignard reagents to the thioketal contg. ketone was enhanced remarkably, and to the ketal contg. ketone moderately, by the addn. of **magnesium chloride**. The effect of **magnesium chloride** is attributed to its ability to competitively prevent chelation of the Grignard reagent and proton abstraction from the 4-oxopiperidine ring. The biol. activities of the ketals and thioketals indicate that the thioketal function conveys greater ability to inhibit the HIV-1 protease than the ketal function.

L16 ANSWER 24 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:107204 CAPLUS

DN 120:107204

TI Organomercury compounds. XXXI. Preparations and ^{199}Hg NMR spectra of organomercury derivatives of 2-phenylpyridine, benzo[h]quinoline, 1-phenylpyrazole and 3,4,5-trimethyl-1-phenylpyrazole, and the x-ray crystal structure of bis[2-(pyridin-2'-yl)phenyl]mercury.

AU Black, David St. C.; Deacon, Glen B.; Edwards, Gavin L.; Gatehouse, Bryan M.

CS Sch. Chem., Univ. New South Wales, Kensington, 2033, Australia

SO Australian Journal of Chemistry (1993), 46(9), 1323-36

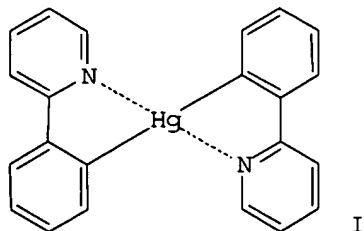
CODEN: AJCHAS; ISSN: 0004-9425

DT Journal

LA English

OS CASREACT 120:107204

GI



AB 2-(Pyridin-2'-yl)phenylmercuric acetate has been prepd. by mercuration of 2-phenylpyridine. Symmetrization of the corresponding **chloride** by alk. sodium stannite gave bis[2-(pyridin-2'-yl)phenyl]mercury (I), which was also prepd. from 2-(2'-aminophenyl)pyridine by the diazo method and treatment of the initial product with copper powder and aq. ammonia. Mercuration of benzo[h]quinoline and 3,4,5-trimethyl-1-phenylpyrazole with mercuric acetate followed by treatment with **lithium chloride** yielded benzo[h]quinolin-10-ylmercuric **chloride** and 2-(3',4',5'-trimethylpyrazol-1'-yl)phenylmercuric **chloride**, resp. Treatment of the former product with tribromide ions gave 10-bromobenzo[h]quinoline. The exchange **Grignard reaction** between 1-phenylpyrazole and ethylmagnesium bromide to give 2-(pyrazol-1'-yl)phenylmagnesium bromide has been monitored by reactions with benzonitrile and D2O to establish optimum conditions for reaction with mercuric bromide giving bis[2-(pyrazol-1'-yl)phenyl]mercury. The 199Hg NMR chem. shifts of the majority of mercurials are shifted substantially downfield relative to the corresponding simple phenylmercurials consistent with weak intramol. coordination by the heterocyclic nitrogen donor atoms, but a small upfield shift is obsd. for bis[2-(pyrazol-1'-yl)phenyl]mercury. The x-ray crystal structure of I shows a centrosym. mol. with strong linear two coordination [Hg-C 2.098(8).ANG.; C-Hg-C 180.0.degree.] and significant but much weaker Hg-N interactions [Hg-N 2.798(7).ANG.; N-Hg-N 180.0.degree.] giving overall distorted square planar stereochem. The Ph rings are mutually coplanar, while the two pyridin-2'-yl rings are parallel and inclined at 10.8.degree. to the Ph groups.

L16 ANSWER 25 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1992:612725 CAPLUS

DN 117:212725

TI Process for the preparation of protected phosphine oxides from phosphinate esters and organomagnesium halides or organolithium compounds

IN Hall, Roger Graham; Riebli, Peter

PA Ciba-Geigy A.-G., Switz.

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 501702	A2	19920902	EP 1992-301489	19920221
	EP 501702	A3	19931208		
	R: DE, FR, GB, IT				
	CA 2061770	AA	19920828	GB 1991-4050	19910227
				CA 1992-2061770	19920225
				GB 1991-4050	19910227
	JP 05086082	A2	19930406	JP 1992-76166	19920227
				GB 1991-4050	19910227
	US 5298663	A	19940329	US 1993-35524	19930323
				GB 1991-4050	19910227
				US 1992-840353	19920224
	US 5414133	A	19950509	US 1994-179403	19940110
				GB 1991-4050	19910227
				US 1992-840353	19920224
				US 1993-35524	19930323

OS CASREACT 117:212725; MARPAT 117:212725

AB Protected phosphine oxides were prepd. by reaction of protected phosphinate esters with organomagnesium halides or organolithiums at -70 - +65.degree.. Thus, EtOP(O)HCH₂(OEt)₂ was added to MeMgBr in THF at 0-5.degree. to give MeP(O)HCH₂(OEt)₂.

L16 ANSWER 26 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1992:550944 CAPLUS

DN 117:150944

TI Additions of 1-(.alpha.-aminoalkyl)benzotriazoles to enol ethers. New routes to 1,3-amino ethers

AU Katritzky, Alan R.; Rachwal, Stanislaw; Rachwal, Bogumila; Steel, Peter J.

CS Dep. Chem., Univ. Florida, Gainesville, FL, 32611-2046, USA

SO Journal of Organic Chemistry (1992), 57(18), 4932-9

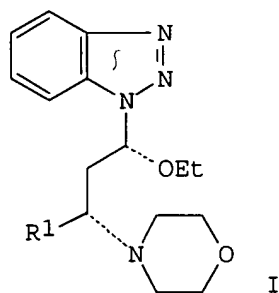
CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

OS CASREACT 117:150944

GI



AB 1-(.alpha.-Aminoalkyl)benzotriazoles add readily to enol ethers to give the corresponding 1-benzotriazolyl-3-aminoalkyl ethers, e.g. I (R₁ = Ph, Me₂CH) in high yields. Subsequent replacement of the benzotriazole moiety by an alkyl or aryl group (with a Grignard reagent) or by a hydrogen atom (with lithium aluminum hydride) affords 1,3-amino ethers in good yields. Anchimeric assistance by the amino groups in the substitutions of the benzotriazolyl moiety facilitates the reactions. Full stereochem. is assigned to the stereoisomeric products on the basis of NMR techniques and x-ray diffraction.

L16 ANSWER 27 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1992:531446 CAPLUS

DN 117:131446

TI Intramolecular aldol condensation applied to D-glucose-derived .delta.-ketoaldehydes: access to enantiomerically pure six-membered carbocycles

AU Tadano, Kinichi; Kanazawa, Satoshi; Takao, Kenichi; Ogawa, Seiichiro

CS Dep. Appl. Chem., Keio Univ., Yokohama, 223, Japan

SO Tetrahedron (1992), 48(21), 4283-300

CODEN: TETRAB; ISSN: 0040-4020

DT Journal

LA English

OS CASREACT 117:131446

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An enantiomerically pure .delta.-ketoaldehyde I, efficiently prepd. from D-glucose, was subjected to an intramol. aldol condensation. The expected aldol reaction took place smoothly in the presence of DBU to give the aldol II stereoselectively. Further functionalization of II provided tri-C-substituted cyclohexanediols III and IV, via the functionalized cyclohexenone V.

L16 ANSWER 28 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:492231 CAPLUS

DN 115:92231

TI Organometallic reactions characteristic of chiral heterocyclic compounds: synthesis and stereoselective **Grignard reaction** of chiral 4-oxa-7,7a-diazaperhydroindans

AU Takahashi, Hiroshi; Senda, Takashi; Higashiyama, Kimio

CS Fac. Pharm. Sci., Hoshi Univ., Tokyo, 142, Japan

SO Chemical & Pharmaceutical Bulletin (1991), 39(4), 836-42

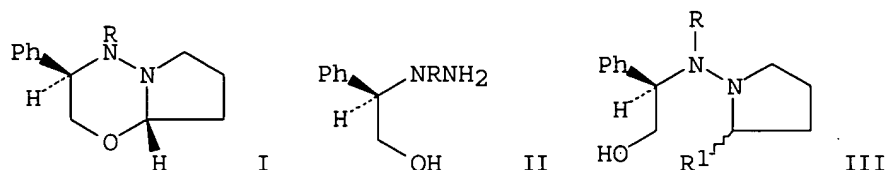
CODEN: CPBTAL; ISSN: 0009-2363

DT Journal

LA English

OS CASREACT 115:92231

GI



AB New heterocyclic compds., 6-phenyl-4-oxa-7,7a-diazaperhydroindans I (R = Me, CHMe₂), were synthesized by condensation of chiral (2-hydroxyethyl)hydrazines II, prepd. from (R)-phenylglycinol, with .gamma.-chlorobutyraldehyde. The stereoselective **Grignard reaction** of I afforded chiral 2-substituted 1-[N-(2-hydroxy-1-phenylethyl)amino]pyrrolidines (III; R₁ = Me, Et, Ph, CH₂Ph). The mol. structure of I (R = Me) was detd. by x-ray crystallog. anal.

L16 ANSWER 29 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:255715 CAPLUS

DN 114:255715

TI Natural products syntheses using anodic oxidation of phenols as a key step

AU Yamamura, Shosuke; Shizuri, Yoshikazu; Shigemori, Hideyuki; Okuno, Yoshishige; Ohkubo, Mitsuru

CS Fac. Sci. Technol., Keio Univ., Yokohama, 223, Japan

SO Tetrahedron (1991), 47(4-5), 635-44

CODEN: TETRAB; ISSN: 0040-4020

DT Journal

LA English

AB Some bioactive natural products such as terpenoids, neolignans and others have been synthesized by means of an electrochem. method, wherein anodic

oxidn. of phenols is carried out as a key step.

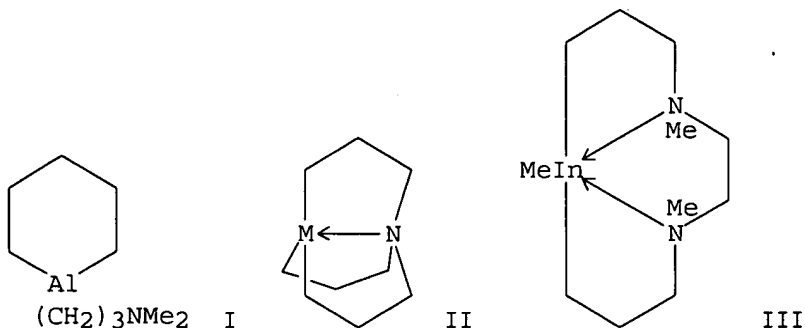
L16 ANSWER 30 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1991:247788 CAPLUS
 DN 114:247788
 TI Peptide derivatives preparation as retroviral protease inhibitors
 IN Kempf, Dale J.; Plattner, Jacob J.; Norbeck, Daniel W.; Boyd, Steven A.;
 Baker, William R.; Erickson, John W.; Fung, Anthony K. L.; Crowley, Steven
 R.
 PA Abbott Laboratories, USA
 SO PCT Int. Appl., 222 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8910752	A1	19891116	WO 1989-US2055	19890512
	W: AU, DK, JP, KR, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
				US 1988-194678	19880513
	EP 342541	A2	19891123	EP 1989-108590	19890512
	EP 342541	A3	19911106		
	R: ES, GR				
				US 1988-194678	19880513
	AU 8935660	A1	19891129	AU 1989-35660	19890512
				US 1988-194678	19880513
				WO 1989-US2055	19890512
	EP 415981	A1	19910313	EP 1989-905856	19890512
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
				US 1988-194678	19880513
				WO 1989-US2055	19890512
	JP 03504247	T2	19910919	JP 1989-506033	19890512
				US 1988-194678	19880513
				WO 1989-US2055	19890512

OS MARPAT 114:247788
 AB Peptide derivs. are prepd. as retroviral protease inhibitors. Synthetic
 processess involved carbodiimide coupling, or coupling in combination with
 deprotection, and reaction with mixed anhydrides. Thus,
 N-methyl-1-cyclohexenecarboxamide was treated with BuLi in THF, treated
 with ClTi(OPr-iso)₃, and then Boc-phenylalaninal to give
 N-methyl-6-[2-(tert-butoxycarbonyl)amino-1-hydroxy-3-phenyl]propyl-1-
 cyclohexenecarboxamide. This was then deprotected with HCl in dioxane to
 give N-methyl-6-(2-amino-1-hydroxy-3-phenylpropyl)-1-
 cyclohexenecarboxamide-HCl (I). I was coupled with Boc-Leu-Asn in the
 presence of 180-BuO₂CCl to give the amide.

L16 ANSWER 31 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1991:247347 CAPLUS
 DN 114:247347
 TI Intramolecular, metallacyclic organoaluminum, -gallium and -indium
 addition compounds. Crystal structure of 1-galla-5-
 azabicyclo[3.3.3]undecane
 AU Schumann, Herbert; Hartmann, Uwe; Wassermann, Wilfried; Just, Oliver;
 Dietrich, Andreas; Pohl, Ludwig; Hostalek, Martin; Lokai, Matthias
 CS Inst. Anorg. Anal. Chem., Tech. Univ. Berlin, Berlin, W-1000/12, Germany
 SO Chemische Berichte (1991), 124(5), 1113-19
 CODEN: CHBEAM; ISSN: 0009-2940

DT Journal
LA English
GI



AB The prepn. of title compds., such as I, II (M = Al, Ga), and III, was described. Thus, the reaction of $Me_2N(CH_2)_3AlCl_2$ with $BrMg(CH_2)_5MgBr$ gave I in 49% yield. III was prepd. in 47% yield from $MeInCl_2$ and $ClMg(CH_2)_3NMeCH_2CH_2NMe(CH_2)_3MgCl$. An x-ray anal. of II (M = Ga) was described. 1 and 2 other products were successfully tested as vapor-phase epitaxy precursors.

L16 ANSWER 32 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:143424 CAPLUS

DN 114:143424

TI Processes for the preparation of naphthalenylmethyl-3H-1,2,3,5-oxathiadiazole 2-oxides as antihyperglycemic agents

IN Ellingboe, John W.; Bagli, Jehan F.; Alessi, Thomas R.

PA American Home Products Corp., USA

SO U.S., 15 pp.

CODEN: USXXAM

DT Patent

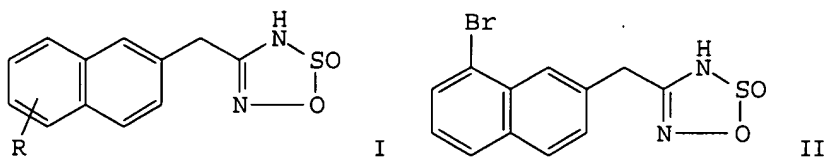
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4966975	A	19901030	US 1989-341615	19890421
				US 1989-341615	19890421

OS MARPAT 114:143424

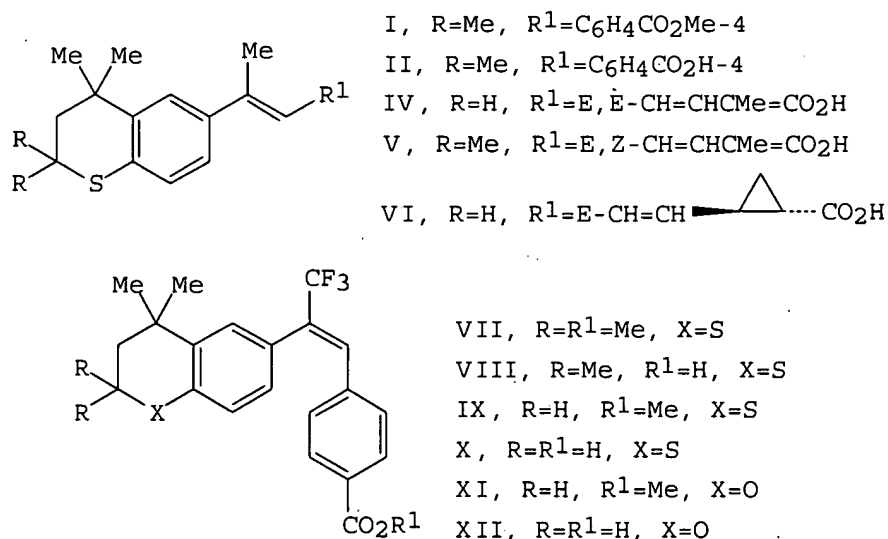
GI



AB The title compds. (I; R = H, alkyl, alkoxy, halo), useful for treatment of diabetes mellitus (no data), were prepd. from $RC_6H_4CH_2CO_2H$ by 1) reaction with $SOCl_2$, 2) cyclocondensation of the resulting acid **chloride**

with C₂H₄ in the presence of TiCl₄ or AlCl₃, 3) treatment of the resulting 2-tetralone with MeMgBr, MeCeCl₂, or MeTiCl₃, 4) aromatization of the resulting naphthol with Ph₃COH in CF₃CO₂H or with Ph₃CBF₄, 5) halogenation of the obtained 2-naphthalene, 6) treatment of the obtained 2-halomethylnaphthalene with Li-, Na-, or KCN, 7) condensation of the cyanomethyl compd. with NH₂OH, and 8) cyclocondensation of the imidamide with SOCl₂. Title compd. II was prepd. by the above method starting from 2-BrC₆H₄CH₂CO₂H; addnl. methods start from 2-naphthoic acid.

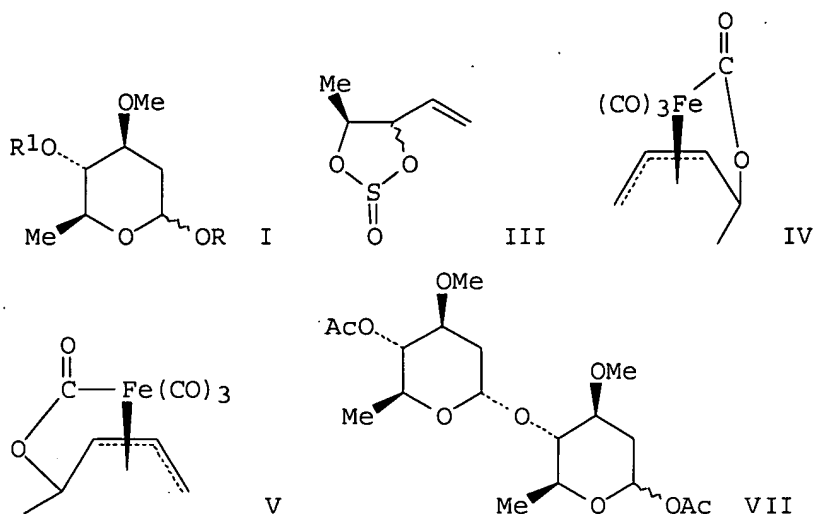
L16 ANSWER 33 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1991:114595 CAPLUS
 DN 114:114595
 TI Novel heteroarotinoids: synthesis and biological activity
 AU Spruce, Lyle W.; Gale, Jonathan B.; Berlin, K. Darrell; Verma, A. K.;
 Breitman, Theodore R.; Ji, Xinhua; Van der Helm, Dick
 CS Dep. Chem., Oklahoma State Univ., Stillwater, OK, 74078, USA
 SO Journal of Medicinal Chemistry (1991), 34(1), 430-9
 CODEN: JMCMAR; ISSN: 0022-2623
 DT Journal
 LA English
 OS CASREACT 114:114595
 GI



AB Thirteen heteroarotinoids were synthesized. The key step in each prepn. was the condensation of the appropriate chroman-, thiochroman-, or benzothienyl-substituted phosphorus ylide, obtained from the independent synthesis of the corresponding phosphonium salts, with selected polyene-substituted aldehyde esters. Screening of the compds. was with one of two assays. One assay measured the ability of a retinoid to inhibit the phorbol ester induced increase of mouse epidermal ornithine decarboxylase (ODC) activity. The other assay measured retinoid-induced differentiation of the human myeloid leukemia cell line HL-60. In the ODC assay, all thirteen compds. were screened. The most active

heteroarotinoids were ester I and the acid II. Both of these retinoids had ID50 values (dose required for half-maximal inhibition of phorbol ester induced ODC activity) of about 0.3 nmol. In comparison, the ID50 value for trans-retinoic acid III was 0.12 nmol while the ID50 values for acids IV and V were about 3.5 nmol. Heteroarotinoids VI and VII-XII had ID50 values of 35 nmol or greater. With a thiochroman unit, the most active acids in decreasing order of activity in the ODC assay were II > V > VI. Thus, simple replacement of the terminal propenyl system [C(16,17,18)] in IV with a cyclopropyl group produced acid VI with markedly reduced activity. With a benzoic acid group as part of the structure attached to the thiochroman unit, the ODC activity was enhanced as shown in I and II. The combination of the 2,2,4,4-tetramethylthiochroman group and the benzoic acid (or ester) terminal group seemed to enhance the biol. action which resembles that found with (E)-4-[2-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)-1-propenyl]benzoic acid, a well-known model system. Replacing the protons with fluorine in the C(12) Me group in the side chain and altering the orientation of the aryl groups around the double bond from anti to syn lowered ODC activity in both the thiochroman- and chroman-contg. systems. Esters VII and IX and acid VIII were essentially inactive while acid X exhibited a high ID50 in the ODC assay. In the chroman family, both ester XI and acid XII had unfavorable ID50 values. Since acid VIII differs only slightly from acid X [the latter is devoid of the geminal di-Me group at C(2)] and acid X differs only slightly from acid XII, possibly the nature of the heteroatom and the stereochem. at the .alpha. position may play important roles in regulating activity, but more examples are required to establish a trend. Changing the ring size from a fused six-six system to a five-six system led to ester Me (E)-4-[2-(2,3-dihydro-3,3-dimethylbenzo[b]thien-5-yl)-1-propenyl]benzoate (XIII) and acid (E)-4-[2-(2,3-dihydro-3,3-dimethylbenzo[b]thien-5-yl)-1-propenyl]benzoic acid (XIV), resp. In sep. expts. from those with of I-XII and known compds both XIII and XIV exhibited similar inhibition of ODC activity to that of III at the 34 nmol level. The ID50 values of XIV and XIV were, however, 10 and 200 times greater than that of III resp. In view of the toxicity of III, ester XIII may hold promise in chemotherapy. Of eight heteroarotinoids examd. in the HL-60 assay system, only acid IV displayed modest activity. This acid had an ED50 value (dose required for half-maximal effect) of 500 nM. In comparison, the ED50 for III was 50 nM. All of the other heteroarotinoids had ED50 values which were greater than 1000 nM.

L16 ANSWER 34 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1991:82316 CAPLUS
DN 114:82316
TI Total synthesis of avermectin Bla: synthesis of the carbohydrate
bis-oleandrose fragment and coupling to the avermectin Bla aglycon
AU Ford, Mark J.; Knight, Julian G.; Ley, Steven V.; Vile, Sadie
CS Dep. Chem., Imp. Coll. Sci., Technol. Med., London, SW7 2AY, UK
SO Synlett (1990), (6), 331-2
CODEN: SYNLES; ISSN: 0936-5214
DT Journal
LA English
OS CASREACT 114:82316
GI



AB Oleandrose (I, R = R1 = H) (II) was prepd. in 8 steps from (S)-Me3CSiMe2OCHMeCHO via cyclic sulfites III (4 isomers) and the key intermediate .pi.-allyl tricarbonyl iron complexes IV and V. Acetylation of II gave an equimolar mixt. of diacetate I (R = R1 = Ac) and monoacetate I (R = Ac, R1 = H) (VI). The diacetate was selectively deacetylated with LiBEt3H to give monoacetate I (R = H, R1 = Ac), which was coupled via its imidazolylcarbonyl deriv., with VI to give the bis-oleandrose fragment VII. VII was selectively deacetylated with LiBEt3H, treated with thiocarbonyldiimidazole and then coupled with avermectin Bla aglycon monoacetate in the presence of AgClO4 and K2CO3 to give avermectin Bla diacetate. The latter compd. was deacetylated with excess LiBEt3H to give avermectin Bla.

L16 ANSWER 35 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:630521 CAPLUS

DN 113:230521

TI Mechanistic aspects of the ligand-assisted nucleophilic addition reaction

AU Swiss, Kevin A.; Liotta, Dennis C.; Maryanoff, Cynthia A.

CS Dep. Chem., Emory Univ., Atlanta, GA, 30322, USA

SO Journal of the American Chemical Society (1990), 112(25), 9393-4

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

AB A systematic study of Grignard addns. to quinol alkoxides elucidates the origins of the high facial selectivity obsd. in these 1,4 addn. processes. The reactive intermediate is a ternary complex composed of a quinol alkoxide, a dialkylmagnesium, and a Lewis acid.

L16 ANSWER 36 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:532280 CAPLUS

DN 113:132280

TI Regio- and stereoselective synthesis of allyltrimethylsilanes via Krief-Reich elimination in .beta.-seleno-.gamma.-silyl alcohols

AU Sarkar, Tarun K.; Ghosh, Sunil K.; Satapathi, Tushar K.

CS Dep. Chem., Indian Inst. Technol., Kharagpur, 721 302, India

SO Tetrahedron (1990), 46(6), 1885-98

CODEN: TETRAB; ISSN: 0040-4020

DT Journal
 LA English
 OS CASREACT 113:132280
 AB The synthesis of (E)-allyltrimethylsilanes by regio- and stereocontrolled pathways is described based on the preference for Krief-Reich elimination over silicon-controlled rearrangement in .beta.-seleno- .gamma.-silyl alcs., readily available from .alpha.-selenoaldehydes. Usefulness of this protocol for the introduction of the allylsilane function .alpha. to the carbonyl group in cycloalkanones as well as for the prepn. of unsym. substituted allylsilanes is also reported.

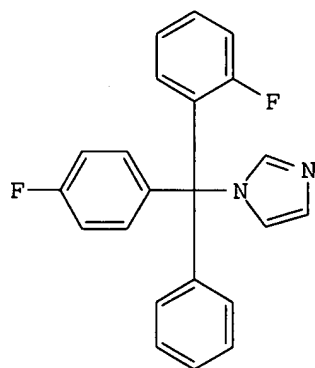
L16 ANSWER 37 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1990:440676 CAPLUS
 DN 113:40676
 TI 1-[(2-fluorophenyl)(4-fluorophenyl)phenylmethyl]-1H-imidazole and related medical fungicides
 IN Bartroli, Javier; Anguita, Manuel
 PA Uriach, J., y Cia. S. A., Spain
 SO Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 352352	A1	19900131	EP 1988-112239	19880728
	EP 352352	B1	19911016		
	R: AT, BE, CH, DE, FR, GB, GR, IT, LI, LU, NL, SE				
	AT 68486	E	19911115	AT 1988-112239	19880728
				EP 1988-112239	19880728
	JP 02048569	A2	19900219	JP 1988-268344	19881026
	JP 06025145	B4	19940406		
				EP 1988-112239	19880728
	CA 1327589	A1	19940308	CA 1988-582916	19881114
				EP 1988-112239	19880728
	US 5149707	A	19920922	US 1990-628937	19901214
				EP 1988-112239	19880728
				US 1988-257095	19881013

OS CASREACT 113:40676; MARPAT 113:40676
 GI



I

AB The title compd. (I) (UR-4506) (and related compds.) were prepd. by reaction of [(2-fluorophenyl)(4-fluorophenyl)phenyl]chloromethane (II) (or the correspong trityl **chlorides**) with imidazole or Li imidazolidine in a polar, inert solvent (MeCN) at 0.degree.-reflux for 5 min-3 h. Thus, PhMgBr reacted with 2,4'-difluorobenzophenone to give 97% of the tritylcarbinol, which was converted to II (83%) with SOCl₂. II was stirred with Li imidazolidine in MeCN at room temp. for 2 h to give 96% I. I had an MIC of 1.0 .mu.g/mL against Candida albicans ATCC 10231. I formulations are given.

L16 ANSWER 38 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:439715 CAPLUS

DN 113:39715

TI Photochemistry of 4-acylisoxazoles

AU Sauers, Ronald R.; Hadel, L. M.; Scimone, A. A.; Stevenson, T. A.

CS New Brunswick Dep. Chem., Rutgers, State Univ., New Brunswick, NJ, 08903, USA

SO Journal of Organic Chemistry (1990), 55(13), 4011-19

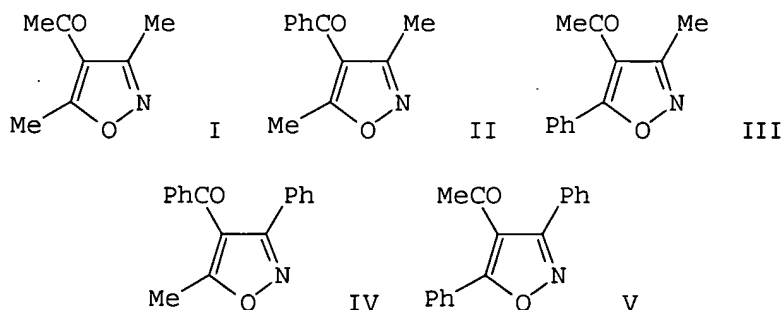
CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

OS CASREACT 113:39715

GI



AB The photochem. of 4-acylisoxazoles (I, II, III, IV, V) was investigated in a effort to clarify literature contradictions and anomalies and to provide a more detailed picture of the nature and no. of intermediates involved in photoreactions of these systems. In contrast to a previous report on the photorearrangement of IV, both oxazoles expected from a 2H-azirine intermediate have been obsd. Wavelength studies of II and the derived 2H-azirine revealed evidence for the involvement of at least two distinct product-forming intermediates. The results of quantum yield and laser flash photolysis measurements for ketones I, IV and V have been interpreted in terms of rapid ring openings of ketone triplet states to form diradical-like intermediates coupled with efficient reclosures (70-99%).

L16 ANSWER 39 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:98163 CAPLUS

DN 112:98163

TI Reactions of 2-phenylethyl and 3-phenylpropyl carbinols with fluorosulfuric acid

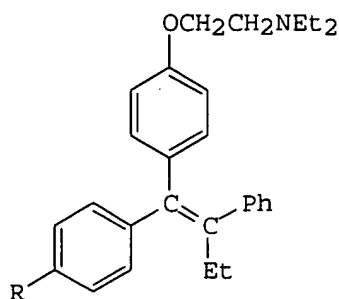
AU Bright, Steven T.; Coxon, James M.; Steel, Peter J.
CS Dep. Chem., Univ. Canterbury, Christchurch, N. Z.
SO Journal of Organic Chemistry (1990), 55(4), 1338-44
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
OS CASREACT 112:98163
AB A series of 2-phenylethyl and 3-phenylpropyl carbinols have been reacted with HSO₃F at -78.degree., the solns. quenched, and the products isolated to give good yields of cyclization products. The 2-phenylethyl carbinols generally undergo rearrangement prior to cyclization, whereas the 3-phenylpropyl carbinols undergo direct cyclization of the initially formed carbocation, to give tetralins. The mechanisms and synthetic applications of these reactions are discussed.

L16 ANSWER 40 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1990:97722 CAPLUS
DN 112:97722
TI Preparation of ketones by reaction of Grignard reagents with acid halides using **lithium** tetrahalometallate catalysts
IN Sproesser, Linhard; Sperling, Karin; Trautmann, Walter; Smuda, Hubert
PA BASF A.-G., Fed. Rep. Ger.
SO Ger. Offen., 8 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3744619	A1	19890713	DE 1987-3744619	19871231
	EP 325784	A2	19890802	EP 1988-121614	19881223
	EP 325784	A3	19900704		
	R: BE, CH, DE, FR, GB, IT, LI, NL				
				DE 1987-3744619	19871231

OS MARPAT 112:97722
AB Ketones, including intermediates for agrochems., are prep'd. by reaction of carboxylic acid halides with Grignard reagents in an inert solvent with added LiMnX₄, LiFeX₄, or Li₂CuX₄ (X = F, Cl, Br, or I). Thus, a Mg-free, 1.2-M soln. of Me₃Cm₃Cl in THF (150 mL) under N at 10.degree. was treated with 10.5 mL of a 0.5-M soln. of Li₂MnCl₄ in THF, followed by 0.075 mol PhO(CH₂)₃COCl in THF. Hydrolysis with aq. NH₄Cl and extn. gave 14 g crude (75% purity) PhO(CH₂)₃COCMe₃, purifiable by distn.

L16 ANSWER 41 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1989:614170 CAPLUS
DN 111:214170
TI Derivatives of tamoxifen. Dependence of antiestrogenicity on the 4-substituent
AU McCague, Raymond; Leclercq, Guy; Legros, Nicole; Goodman, Joyce; Blackburn, G. Michael; Jarman, Michael; Foster, Allan B.
CS Drug Dev. Sect., Inst. Cancer Res., Sutton/Surrey, SM2 5PX, UK
SO Journal of Medicinal Chemistry (1989), 32(12), 2527-33
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
OS CASREACT 111:214170
GI



AB A range of tamoxifen (I; R = H) derivs. substituted in the 4-position of the 1-Ph ring are described. The key steps in the synthesis of I (R = iodo, Br, MeS) were reactions of 1,2-diarylbutanones with the (4-halophenyl)**lithium** or [4-(methylthio)phenyl]**magnesium** bromide. Oxidized precursors of 4-(methylthio)tamoxifen were used to prep. the methylsulfinyl and methylsulfonyl derivs. Further derivs. I (R = formyl, hydroxymethyl, oxiranyl, mercapto) were prepd. from 4-bromotamoxifen via the 4-lithio deriv. Several of the derivs. I (R = Br, iodo, SMe, SOMe, SO₂Me, oxiranyl, CHO, CH₂OH) displayed a higher affinity for estrogen receptors (ER) of calf uterine cytosol than did tamoxifen, but there was no relationship between affinity to ER and the ability to inhibit the growth of the MCF-7 breast cancer cell line in vitro.

L16 ANSWER 42 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1989:553242 CAPLUS

DN 111:153242

TI Addition and redox processes in the reaction of Grignard reagents with 1,4-dinitrobenzene. Factors affecting product distribution

AU Bartoli, Giuseppe; Dalpozzo, Renato; Grossi, Loris

CS Dip. Sci. Chim., Camerino, 62032, Italy

SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1989), (6), 573-8
CODEN: JCPKBH; ISSN: 0300-9580

DT Journal

LA English

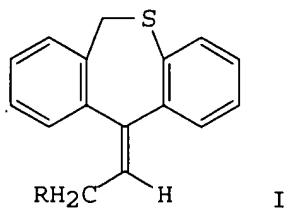
OS CASREACT 111:153242

AB 1,4-Dinitrobenzene (I) reacts smoothly and irreversibly with alkylmagnesium or **-lithium** reagents to give at first the nitroarene radical anion (redox product) and 6-alkyl-2-nitro-5-aci-nitrocyclohexa-1,2-diene (II) (addn. product). Intermediate II undergoes an immediate addn. to the nitro function by a second mole of **Grignard reaction** or MeLi to give trans-4,5-dialkyl-3,6-di-aci-nitrocyclohexene, which can be converted into the corresponding trans-5,6-dialkyl-1,4-dinitrocyclohexa-1,3-diene by oxidn. with NaOCl or DDQ. The addn. process is favored by lower temps. and weakly polar and highly viscous solvents, while steric hindrance in the **magnesium** reagent enhances radical anion formation. These findings are interpreted in terms of a single electron transfer mechanism in which all factors delaying a geminate recombination of the radical pair favor the redox process to the detriment to addn. The almost abs. stereoselectivity of the double alkylation process is attributed to steric control on the direction of attack of alkylmagnesium to the ene-nitro function of II exerted by the axial alkyl group. A detailed ESR study of the radical

anion of I is also reported.

L16 ANSWER 43 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1989:534015 CAPLUS
 DN 111:134015
 TI Preparation of (E)-N,N-dimethyl-3-[6,11-dihydrodibenzo[b,e]thiepin-11-ylidene]propylamine as an antidepressant
 IN Polivka, Zdenek; Protiva, Miroslav
 PA Czech.
 SO Czech., 4 pp.
 CODEN: CZXXA9
 DT Patent
 LA Czech
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 254742	B1	19880115	CS 1986-6447	19860905
				CS 1986-6447	19860905
OS	CASREACT 111:134015				
GI					



AB The title thiepin (I; R = CH₂NMe₂), the trans isomer of prothiaden, was prepd. as antidepressant (no data) by reducing I (R = CONMe₂) (II) with LiAlH₄ in boiling Et₂O. A soln. of 26 g II (multistep prepn. given) in 150 mL Et₂O was added to a suspension of 5 g LiAlH₄ in 200 mL Et₂O and refluxed 4 h. The product was isolated, redissolved in EtOH and treated with a soln. of HCl in Et₂O to give 24 g I.HCl. M.p. of I.HCl was 227-229.degree. (from EtOH/Et₂O); I m. 52-54.degree..

L16 ANSWER 44 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1989:154889 CAPLUS
 DN 110:154889
 TI Preparation of norstatine- and norcyclostatine-containing peptides as renin inhibitors
 IN Hoover, Dennis Jay; Wester, Ronald Thure; Rosati, Robert Louis
 PA Pfizer Inc., USA
 SO Eur. Pat. Appl., 86 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 266950	A2	19880511	EP 1987-309461	19871027
	EP 266950	A3	19900411		
	EP 266950	B1	19931229		

R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE

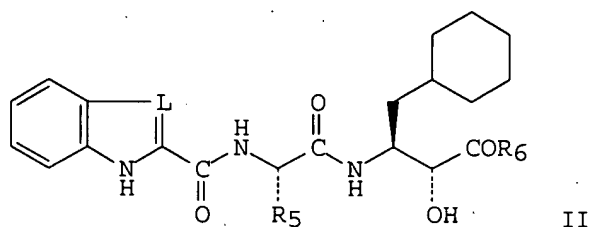
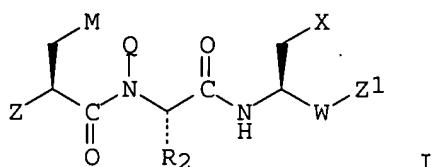
IN 172976	A	19940115	US 1986-925449 A 19861031
CN 87101499	A	19880511	US 1987-68982 A 19870701
CN 1027271	B	19950104	IN 1987-DE905 19871015
			US 1986-925449 19861031
			CN 1987-101499 19871023
US 4814342	A	19890321	US 1986-925449 A 19861031
			US 1987-68982 A 19870701
AT 99324	E	19940115	US 1987-112976 19871023
			US 1986-925449 A219861031
			US 1987-68982 A219870701
ES 2061512	T3	19941216	AT 1987-309461 19871027
			US 1986-925449 A 19861031
CA 1310793	A1	19921124	US 1987-68982 A 19870701
			EP 1987-309461 A 19871027
DK 8705684	A	19880501	ES 1987-309461 19871027
			US 1986-925449 A 19861031
FI 8704787	A	19880501	US 1987-68982 A 19870701
FI 90346	B	19931015	CA 1987-550413 19871028
FI 90346	C	19940125	US 1986-925449 A 19861031
			US 1987-68982 A 19870701
NO 8704530	A	19880502	DK 1987-5684 19871030
NO 173017	B	19930705	US 1986-925449 A 19861031
NO 173017	C	19931013	US 1987-68982 A 19870701
			FI 1987-4787 19871030
AU 8780541	A1	19880505	US 1986-925449 A 19861031
AU 585180	B2	19890608	NO 1987-4530 19871030
			US 1986-925449 A 19861031
HU 45270	A2	19880628	US 1987-68982 A 19870701
HU 207869	B	19930628	AU 1987-80541 19871030
			US 1986-925449 A 19861031
JP 63183551	A2	19880728	US 1987-68982 A 19870701
			JP 1987-275583 19871030
DD 262583	A5	19881207	US 1986-925449 A 19861031
ZA 8708158	A	19890628	US 1987-68982 A 19870701
SU 1706391	A3	19920115	DD 1987-308473 19871030
US 4935405	A	19900619	US 1986-925449 A 19861031
			ZA 1987-8158 19871030
US 5034376	A	19910723	US 1986-925449 A 19861031
			SU 1987-4203604 19871030
			US 1986-925449 A 19861031
			US 1988-277614 19881129
			US 1986-925449 B219861031
			US 1987-68982 B219870701
			US 1987-112976 A319871023
			US 1990-497041 19900321
			US 1986-925449 B219861031
			US 1987-68982 B219870701
			US 1987-112976 A319871023

IN 175148 A 19950506
 JP 07173134 A2 19950711
 JP 07108901 B4 19951122

US 1988-277614 A319881129
 IN 1990-DE781 19900803
 IN 1987-DE905 A119871015
 JP 1994-221930 19940916

US 1986-925449 A 19861031
 US 1987-68982 A 19870701

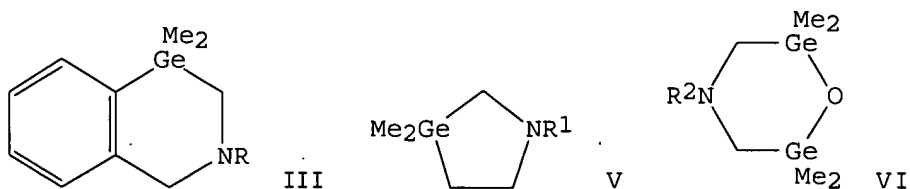
OS CASREACT 110:154889; MARPAT 110:154889
 GI



AB The title peptides [I, II; Z = R1-Ym-Ap; R1 = C1-6 alkyl, C1-4 alkoxy, (un) substituted amino, morpholino, piperidyl, piperazino, (substituted)piperidino, thiomorpholino, pyridyl, etc; Y = CO, P(O)OMe, SO2; A = NMe, NH, O; m, p = 0, 1; M = Ph, PhCH2, naphthyl, thienyl, MeOC6H4, ClC6H4, HOC6H4, C6-7 cycloalkyl; X = Me, H; R2 = C1-5 alkyl, substituted C1-2 alkyl, PhCH2, guanidino-C1-3 alkyl, 4-aminobutyl, imidazol-4-ylmethyl, etc.; X = cyclohexyl, Me2CH, Ph; W = CHOH, CO, CHN3, CHNH2, CMeOH, etc.; Z1 = CH2OH, R-X1-T; R = CO; X1 = O, NH, NMe, CH2, bond; T = C1-5 alkyl, C1-4 hydroxyalkyl, C1-4 alkylcarbonyl, H, trifluoroethyl, Ph, PhCH2, morpholino, etc.; L = CH, N; R5 = imidazol-4-ylmethyl, C2-5 alkyl; R6 = C1-4 alkoxy, C1-4 alkylamino; provided that when m = 0, P = O; when A = O, Y = CO; when T = C1-4 alkylcarbonyl, X1 = NH, NMe, CH2; when T = C2-5 alkylamino, C1-2 alkoxyamino, morpholino or 4-C1-2 alkylpiperazino, X1 = CH2, bond], useful as antihypertensives (no data), were prepd. Treatment of (S)-3-(tert-butoxycarbonylamino)-4-cyclohexyl-(R)-2-hydroxybutyric acid with Me2CHCH2O2CCl in THF contg. Et3N and amidation of the resulting mixed anhydride with MeNH2 gave 42% N-methyl-3-(tert-butoxycarbonylamino)-4-cyclohexyl-(R)-2-hydroxybutyramide (BOC-nor-C-Sta-NHMe). Deprotection of the latter with 4N HCl in dioxane, followed by peptide coupling with BOC-Phe-His(imBOC)-OH (BOC = CO2CMe3) in CH2Cl2 in the presence of Et3N, hydroxybenzotriazole, and DCC, gave BOC-Phe-His(imBOC)-nor-C-Sta-NHMe, which was treated with AcOH-H2O(80:20) to give BOC-Phe-His-nor-C-Sta-NHMe.

L16 ANSWER 45 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1989:24095 CAPLUS
 DN 110:24095

- TI General synthesis of ketones from carboxylic esters and carboxamides by use of mixed organolithium-**magnesium** reagents: syntheses of artemisia ketone
- AU Fehr, Charles; Galindo, Jose; Perret, Roland
- CS Res. Lab., Firmenich S. A., Geneva, CH-1211/8, Switz.
- SO Helvetica Chimica Acta (1987), 70(7), 1745-52
CODEN: HCACAV; ISSN: 0018-019X
- DT Journal
- LA English
- OS CASREACT 110:24095
- AB The novel reagents formed by combination of Grignard reagents with $\text{LiN}(\text{CHMe}_2)_2$ convert non-enolizable or slowly enolizable carboxylic esters or carboxamides into ketones which are protected from further reaction by their in situ conversion into enolates. These enolates were trapped with electrophiles such as Me_3SiCl and $\text{BrCH}_2\text{CH}=\text{CH}_2$. The scope of the Grignard mono-addn. is illustrated by 2 direct syntheses of artemisia ketone.
- L16 ANSWER 46 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
- AN 1989:24018 CAPLUS
- DN 110:24018
- TI Synthesis of heterocyclic compounds containing germanium and nitrogen as hetero-atoms. I
- AU Shitara, Kazuhiro; Sato, Yoshiro; Nakagawa, Reiko
- CS Fac. Pharm. Sci., Nagoya City Univ., Nagoya, 467, Japan
- SO Journal of Organometallic Chemistry (1988), 339(3), 259-65
CODEN: JORCAI; ISSN: 0022-328X
- DT Journal
- LA English
- OS CASREACT 110:24018
- GI

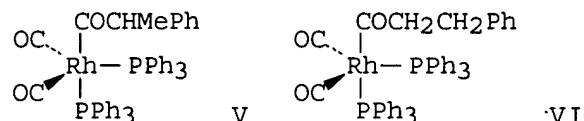


- AB Several new 5- and 6-membered heterocyclic compds. contg. both Ge and N were synthesized starting from $\text{Me}_2\text{Ge}(\text{CH}_2\text{Cl})\text{Cl}$ (I). Thus, **Grignard reaction** of 2- $\text{MeC}_6\text{H}_4\text{MgBr}$ with I gave 2- $\text{MeC}_6\text{H}_4\text{GeMe}_2\text{CH}_2\text{Cl}$ which on bromination with NBS gave 2- $\text{BrCH}_2\text{C}_6\text{H}_4\text{GeMe}_2\text{CH}_2\text{Cl}$ (II). Cyclocondensation of II with RNH_2 gave 73-95% tetrahydrobenzoazagermines III ($\text{R} = \text{Me}, \text{Ph}, \text{Me}_2\text{NCH}_2\text{CH}_2\text{CH}_2$). **Grignard reaction** of I with $\text{H}_2\text{C}=\text{CHMgBr}$ gave $\text{Me}_2\text{Ge}(\text{CH}_2\text{Cl})(\text{CH}=\text{CH}_2)$ which on treatment with R_1NH_2 gave 50-93% $\text{Me}_2\text{Ge}(\text{CH}_2\text{NHR}_1)(\text{CH}=\text{CH}_2)$ (IV; $\text{R}_1 = \text{Ph}, \text{PhCH}_2$). Reductive cyclization of IV gave azagermolidines V. Azaoxadigermines VI ($\text{R}_2 = \text{Et}, \text{PhCH}_2$) were prepd. by the hydrolysis of I with NaHCO_3 followed by cyclocondensation with R_2NH_2 . Some reactions of VI were also described.

- L16 ANSWER 47 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
- AN 1988:493295 CAPLUS
- DN 109:93295
- TI Structural characterization in solution of intermediates in

rhodium-catalyzed hydroformylation and their interconversion pathways

AU Brown, John M.; Kent, Alexander G.
 CS Dyson Perrins Lab., Oxford, OX1 3QY, UK
 SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1987), (11), 1597-607
 CODEN: JCPKBH; ISSN: 0300-9580
 DT Journal
 LA English
 OS CASREACT 109:93295
 GI



AB The reaction of $\text{HRh}(\text{CO})(\text{PPh}_3)_3$ (I) with CO has been studied by ^1H , ^{13}C , and ^{31}P NMR. The main species present under ambient conditions is $\text{HRh}(\text{CO})_2(\text{PPh}_3)_2$ (II) which exists as two rapidly equilibrating trigonal bipyramidal isomers. Complexes I and II are in rapid equil. via CO and PPh_3 dissocn. steps and the square-planar complexes $\text{HRh}(\text{CO})(\text{PPh}_3)_2$ (III) and $\text{HRh}(\text{CO})_2\text{PPh}_3$ (IV) are likely transient intermediates. The chem. of these PPh_3 complexes is compared with that of closely related 5-phenyl-5H-dibenzophosphole and 1,3-bis(diphenylphosphino)propane analogs. Complex I catalyzes the isomerization of (Z)-[1,2-2H₂]styrene, effectively suppressed by CO or PPh_3 . $\text{HRh}(\text{CO})_2\text{P}_2$ complexes trap methylenecyclopropane. In the presence of styrene and CO, I is converted into a branched acyl deriv., e.g. V, which readily equilibrates with its linear isomer VI; the stereochem. of these acyl derivs. is detd. by low-temp. NMR; at higher temps. rapid inter- and intramol. exchange processes occur. The relevance of these observations to Rh-catalyzed hydroformylation is discussed and it is proposed that the regiochem. of reaction is largely controlled by competitive olefin trapping involving complexes III and IV.

L16 ANSWER 48 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1988:6285 CAPLUS

DN 108:6285

TI Preparation of new 5.alpha.-hydroxy-.DELTA.9(10)-19-norsteroids and their conversion to .DELTA.4-19-norsteroids useful as antiglucocorticoids

IN Philibert, Daniel; Teutsch, Jean Georges; Costerousse, Germain; Deraedt, Roger

PA Roussel-UCLAF, Fr.

SO Fr. Demande, 61 pp.

CODEN: FRXXBL

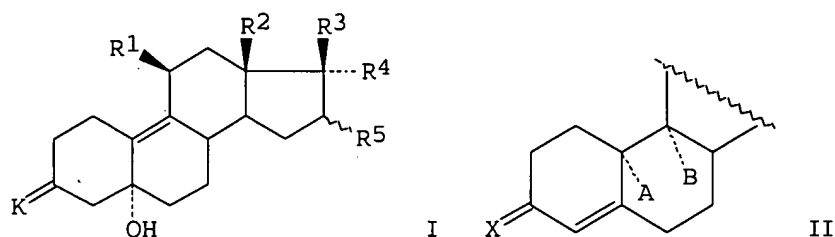
DT Patent

LA French

FAN.CNT 1

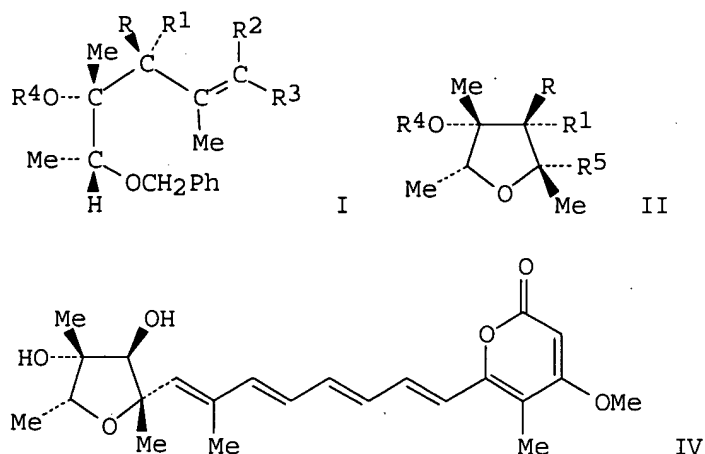
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2586021	A1	19870213	FR 1985-12216	19850809
	FR 2586021	B1	19881014		
				FR 1985-12216	19850809

GI



AB 5.alpha.-Hydroxy-19-norsteroids I [R1 = alkyl, alkenyl, furyl, cycloalkyl, naphthyl, di-Ph, (un)substituted thienyl or Ph; R2 = Me, Et; R3 = H, OH, HOCH2CO, carboxyalkoxy, acyloxyalkyl, (un)substituted alkyl, alkenyl, alkynyl, (un)ketalized Ac, and R4 = H, OH, CH2CN, (un)substituted alkyl, alkenyl, alkynyl; or R3 = cyano and R4 = ether-protected OH; R5 = H, .alpha.- or .beta.-Me; K = keto group blocked as a ketal, thioketal, oxime, or methyloxime; various further provisos are given] are prepd. and converted to the 19-norsteroids II [X = O, NOH, alkoxyimino; AB = O, bond; similar R-groups and provisos], which are antiglucocorticoids. A soln. of 3,3-ethylenebis(oxy)-5.alpha.,10.alpha.-epoxy-17.alpha.-(prop-1-ynyl)estr-9(11)-en-17.beta.-ol in THF was treated with a soln. of Cu reagent (from CuCl and 4-MeSC6H4MgBr) in THF, and the mixt. was stirred for 2 h at -20.degree. to give I [R1 = 4-MeSC6H4, R2 = Me, R3 = OH, R4 = C.tplbond.CMe, R5 = H, K = OCH2CH2O]. Deprotection and dehydration of the latter by refluxing in 95% EtOH with the acidic sulfonate resin Redex CF gave the corresponding II (X = O, AB = bond, others as given) (III). Tablets of 120 mg each contained 50 mg III and the remainder of talc, starch, and Mg stearate. III had a 24-h relative binding affinity 227% that of dexamethasone for isolated rat thymus glucocorticoid receptors.

L16 ANSWER 49 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1987:636318 CAPLUS
 DN 107:236318
 TI Total synthesis of (.+-.)-citroviridin
 AU Williams, David R.; White, F. H.
 CS Dep. Chem., Indiana Univ., Bloomington, IN, 47405, USA
 SO Journal of Organic Chemistry (1987), 52(23), 5067-79
 CODEN: JOCEAH; ISSN: 0022-3263
 DT Journal
 LA English
 OS CASREACT 107:236318
 GI



AB Studies detailing the stereochem. course of iodine-induced cyclization of .gamma.,.delta.-olefinic benzyl ethers I (R = R1 = H, OH; R2 = R3 = H, Me; R4 = MeOCH2CH2OCH2) affording tetrahydrofurans II (R5 = CHMe) were described. In all cases, the stereochem. of a secondary allylic hydroxyl influenced the course of ring closure to position the new .alpha.-iodoethyl substituent in an anti (trans) disposition relative to the neighboring alc. Unambiguous stereochem. assignments were available from x-ray crystallog. studies of II (R = H, R1 = OH). The key intermediates (.+.-)-citreoviral (II; R = OH, R1 = R4 = H, R5 = trans-CH:CMCHO) (III) was prep'd. by Wittig methodol. in 6 steps from II (R = OH, R1 = H, R4 = MeOCH2CH2OCH2, R5 = CHMe). III was converted to (.+.-)-citreoviridin (IV) by extension of the olefinic chain and introduction of the .alpha.-pyrone unit.

L16 ANSWER 50 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1987:631464 CAPLUS

DN 107:231464

TI Preparation of unsaturated amide pesticides

IN Blade, Robert John; Parkin, Donald; Crombie, Leslie; Horsham, Mark Andrew

PA Wellcome Foundation Ltd., UK

SO Eur. Pat. Appl., 29 pp.

CODEN: EPXXDW

DT Patent

LA English

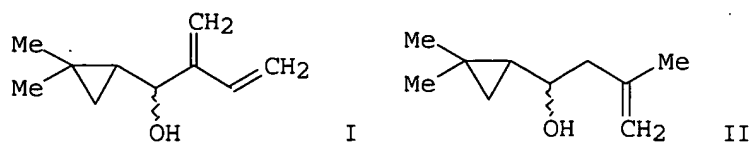
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 228222	A2	19870708	EP 1986-309742	19861215
	EP 228222	A3	19890426		
	EP 228222	B1	19900523		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
				GB 1985-31073	19851217
				GB 1986-19983	19860815
	AU 8666567	A1	19870618	AU 1986-66567	19861215
	AU 604660	B2	19910103		
				GB 1985-31073	19851217
				GB 1986-19983	19860815
	FI 8605097	A	19870618	FI 1986-5097	19861215
				GB 1985-31073	19851217

DK 8606031	A	19870618	GB 1986-19983	19860815
			DK 1986-6031	19861215
			GB 1985-31073	19851217
HU 42261	A2	19870728	GB 1986-19983	19860815
			HU 1986-5214	19861215
			GB 1985-31073	19851217
JP 62187441	A2	19870815	GB 1986-19983	19860815
			JP 1986-298592	19861215
			GB 1985-31073	19851217
BR 8606203	A	19870929	GB 1986-19983	19860815
			BR 1986-6203	19861215
			GB 1985-31073	19851217
ZA 8609437	A	19880727	GB 1986-19983	19860815
			ZA 1986-9437	19861215
AT 53009	E	19900615	GB 1985-31073	19851217
			AT 1986-309742	19861215
			GB 1985-31073	19851217
			GB 1986-19983	19860815
			EP 1986-309742	19861215

AB The unsatd. amides $QX(CH_2)_m(CY:CY1)_nCONRR1$ [$X = CH_2, O$; $m = 0-10$; $n = 1, 2$; $Y, Y1 = H, \text{alkyl, haloalkyl}$; $R, R1 = H, (\text{un})\text{substituted alkyl, aminoalkyl, alkenyl, alkynyl, or cycloalkyl}$; $Q = \text{alkoxy, cycloalkyl, (un)substituted alkyl, etc.}$] are prepd. as insecticides, acaricides and fungicides. Tri-Et 4-phosphonocrotonate in dry THF was added at -70° to Li diisopropylamide in dry THF, followed by 7,7-difluorohept-6-enal (prepn. given) at -60° to give Et (2E,4E)-11,11-difluoroundeca-2,4,10-trienoate, which was refluxed in KOH-contg. EtOH for 2 h, to give the corresponding acid. This was treated with Et₃N and with Ph N-phenylphosphoramidochloridate in dry CH₂Cl₂, followed by iso-BuNH₂ and Et₃N in CH₂Cl₂, to give (2E,4E)-N-isobutyl-11,11-difluoroundeca-2,4,10-trienamide (I). I had a topical LD₅₀ value of 0.5 $\mu\text{g/fly}$ against houseflies (*Musca domestica*) when synergized with piperonyl butoxide. A spray was made of I 0.1, butylated hydroxyanisole 0.1, xylene 10.0, and kerosene 89.8 (no units given).

L16 ANSWER 51 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1987:407398 CAPLUS
 DN 107:7398
 TI Synthesis of some monoterpenols via cyclopropylcarbinyl rearrangement
 AU Moiseenkova, A. M.; Ceskis, B.
 CS N. D. Zelinskii Inst. Org. Chem., Moscow, USSR
 SO Collection of Czechoslovak Chemical Communications (1986), 51(6), 1316-22
 CODEN: CCCCAK; ISSN: 0366-547X
 DT Journal
 LA English
 OS CASREACT 107:7398
 GI



AB Treating bromodimethylcyclopropane with Li in hexane followed by DMF gave

2,2-dimethylcyclopropanecarboxaldehyde which underwent **Grignard reactions** with $\text{CH}_2:\text{CHC}(:\text{CH}_2)\text{MgCl}$ and $\text{CH}_2:\text{CMeCHMgCl}$ to give stereoisomeric alcs. I and II. The latter were cleaved by HClO_4 to give $\text{Me}_2\text{C}(\text{OH})\text{CH}_2\text{CH}:\text{CHC}(:\text{CH}_2)\text{CH}:\text{CH}_2$ and $\text{Me}_2\text{C}(\text{OH})\text{CH}_2\text{CH}:\text{CHCH}_2\text{CMe}:\text{CH}_2$, resp. Similarly obtained were $\text{MeC}(\text{OH})\text{CHMeCH}:\text{CHCHMe}_2$ and $\text{Me}_2\text{C}(\text{OH})\text{CHMeCH}:\text{CHCMe}:\text{CH}_2$.

L16 ANSWER 52 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1987:102459 CAPLUS

DN 106:102459

TI Electron-deficient pentamethylcyclopentadienyl-1,3-butadiene complexes of titanium, zirconium, and hafnium

AU Blenkers, Joop; Hessen, Bart; Van Bolhuis, Fre; Wagner, Anton J.; Teuben, Jan H.

CS Dep. Chem., Univ. Groningen, Groningen, 9747 AG, Neth.

SO Organometallics (1987), 6(3), 459-69

CODEN: ORGND7; ISSN: 0276-7333

DT Journal

LA English

OS CASREACT 106:102459

AB $\text{Cp}^*\text{M}(\text{diene})\text{Cl}$ [I; $\text{Cp}^* = \text{C}_5\text{Me}_5$; $\text{M} = \text{Ti, Zr, Hf}$; diene = $\text{CH}_2:\text{C}(\text{R})\text{C}(\text{R}_1):\text{CH}_2$; $\text{R} = \text{R}_1 = \text{H, Me (L)}$; $\text{R} = \text{Me, R}_1 = \text{H}$] were prep'd. by either redn. of Cp^*MCl_3 ($\text{M} = \text{Zr, Hf}$) in the presence of free diene, reaction of Cp^*TiCl_3 with the enediylmagnesium reagent $[\text{Mg}(\text{CH}_2\text{CMe}:\text{CMeCH}_2)] \cdot 2\text{THF}$, or exchange of an η^3 -1-methallyl ligand between $\text{Cp}^*\text{M}(\text{butadiene})(1\text{-methallyl})$ and Cp^*MCl_3 . These 14-electron complexes form 16-electron adducts with a variety of Lewis bases, in all of which the diene ligand assumes a nonfluxional s-cis conformation. NMR spectroscopy indicates diene-metal bonding of σ^2, π -metallacyclopentene rather than η^4 -diene character. EHMO calcns. on 14- and 16-electron model systems predict less pronounced metallacyclopentene character on complexation of the Lewis base. Both types of compds. were characterized by x-ray crystallog. The diene C-C distances in $\text{Cp}^*\text{Hf}(\text{C}_6\text{H}_{10})\text{Cl}$ (II) indicate a large participation of the asym. η^3, σ -resonance structure in the bonding of the diene fragment to the metal. The metallacyclopentene character of the diene ligand in II.cntdot.py is apparent from the Hf-C(diene) and diene C-C distances. The Cl atom in I is easily substituted to form alkyl, aryl, allyl, and borohydride derivs. I show agostic C-H-M interactions in NMR and IR spectra.

L16 ANSWER 53 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1987:101701 CAPLUS

DN 106:101701

TI Perfluoroalkylations of carbanions with (perfluoroalkyl)phenyliodonium triflates (FITS reagents)

AU Umemoto, Teruo; Gotoh, Yoshihiko

CS Sagami Chem. Res. Cent., Kanagawa, 229, Japan

SO Bulletin of the Chemical Society of Japan (1986), 59(2), 439-45

CODEN: BCSJA8; ISSN: 0009-2673

DT Journal

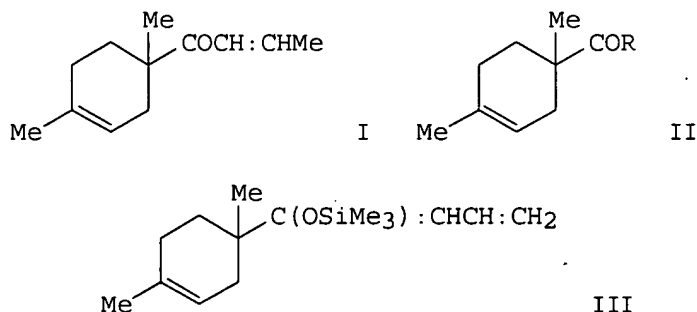
LA English

OS CASREACT 106:101701

AB $\text{F}(\text{CF}_2)_n\text{I}(\text{PhO}_3\text{SCF}_3)$ (I, $n = 2, 3, 4, 6, 8$) reacted with alkylmagnesium halides, e.g., $\text{Me}(\text{CH}_2)_7\text{MgCl}$, to give up to 82% perfluoroalkylated alkanes, e.g., $\text{Me}(\text{CH}_2)_7(\text{CF}_2)_7\text{CF}_3$. However, similar treatment of I with secondary or tertiary alkylmagnesium halides, aryl or vinyl **magnesium** halides, and alkyl lithium or -copper compds. gave low yields of perfluoroalkylated products. RC.tplbond.CLi ($\text{R} = \text{Ph, hexyl}$) reacted with

I ($n = 2, 3, 6, 8$) to give 44-70% RC.tplbond.C(CF₂)_nF. I also reacted smoothly with enolate anions of active methylene compds., e.g., 2-methyl-1,3-cyclopentanedione, MeCOCHMeCO₂Et, and Et 2-oxocyclopentanecarboxylate in polar solvents to afford O- and C-perfluoroalkylation product in moderate yields. The ratio of O to C products was temp. dependent. Metalated MeCH(CO₂Et)₂ and Me₂CHNO₂ gave C-perfluoroalkylated products only.

L16 ANSWER 54 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1987:49637 CAPLUS
 DN 106:49637
 TI Synthesis of (E)-1-propenyl ketones from carboxylic esters and carboxamides by use of mixed organolithium-magnesium reagents. Synthesis of .alpha.-damascone, .beta.-damascone, and .beta.-damascenone
 AU Fehr, Charles; Galindo, Jose
 CS Res. Lab., Firmenich SA, Geneva, CH-1211, Switz.
 SO Helvetica Chimica Acta (1986), 69(1), 228-35
 CODEN: HCACAV; ISSN: 0018-019X
 DT Journal
 LA English
 OS CASREACT 106:49637
 GI



AB E-Propenyl ketones, e.g., I, were prepd. in yields as high as .apprx.85% by **Grignard reaction** of esters and carboxamides (e.g., II, R = MeO, Et₂N) with CH₂:CHCH₂MgCl in THF-hexane in the presence of R₂1NLi (R₁ = Me₂CH, Et), followed by isomerization with p-MeC₆H₄SO₃H in PhMe. A mechanism involving ketone protection via its enolate is supported by the formation of silyl enol ether III in the reaction of II (R = Et₂N) with CH₂:CHCH₂MgCl and (Me₂CH)₂NLi when quenched with Me₃SiCl.

L16 ANSWER 55 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1984:490365 CAPLUS
 DN 101:90365
 TI Preparation of chiral sulfones by asymmetric addition of arenesulfonyl carbanions to acetone
 AU Akiyama, Takahiko; Shimizu, Makoto; Mukaiyama, Teruaki
 CS Fac. Sci., Univ. Tokyo, Tokyo, 113, Japan
 SO Chemistry Letters (1984), (4), 611-14
 CODEN: CMLTAG; ISSN: 0366-7022
 DT Journal
 LA English
 OS CASREACT 101:90365

- AB In the presence of a chiral diamine, the **magnesium** salt of allyl p-tolyl sulfone reacted with acetone at the .alpha.-carbon to give 4-MeC₆H₄SO₂CH(CH:CH₂)CMe₂OH. Chiral 1-substituted 2-(aminomethyl)pyrrolidines were used.
- L16 ANSWER 56 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1984:156178 CAPLUS
 DN 100:156178
 TI Preparation of allylic and homoallylic alcohols containing trifluoromethyl group
 AU Koh, Moon Gyu; Choi, Sam Kwon
 CS Dep. Chem., Korea Adv. Inst. Sci. Technol., Seoul, 131, S. Korea
 SO Bulletin of the Korean Chemical Society (1983), 4(5), 200-3
 CODEN: BKCSDE; ISSN: 0253-2964
 DT Journal
 LA English
- AB Treatment of alkynols RC.tplbond.CCH(OH)CF₃ (R = Bu, Ph) with Me₂CHCH₂MgCl in the presence of Cp₂TiCl₂ (Cp = cyclopentadienyl) in ether afforded allylic alcs. (Z)-RCH:CHCH(OH)CF₃. Reaction of the (E)-type Grignard intermediates with MeI or iodine gave (Z)-MeCR:CHCH(OH)CF₃ and (E)-ICR:CHCH(OH)CF₃. Phenylation of CH₂:CHZCH(OH)CF₃ (Z = bond, CH₂) with PhI in the presence Pd(OAc)₂ gave (E)-PhCH:CHXCH(OH)CF₃.
- L16 ANSWER 57 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1981:586837 CAPLUS
 DN 95:186837
 TI Substituted benzyl esters of cyclopropane carboxylic acids compositions containing them and methods of combating insect pests therewith, and substituted benzyl alcohols
 IN Punja, Nazim
 PA Imperial Chemical Industries Ltd. , UK
 SO Eur. Pat. Appl., 63 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 3
- | | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------------------------|------|----------|-----------------|----------|
| PI | EP 31199 | A1 | 19810701 | EP 1980-304158 | 19801120 |
| | EP 31199 | B1 | 19831214 | | |
| | R: BE, CH, DE, FR, GB, IT, NL | | | | |
| | ZA 8007427 | A | 19811125 | GB 1979-44151 | 19791221 |
| | | | | ZA 1980-7427 | 19801127 |
| | | | | GB 1979-44151 | 19791221 |
| | AU 8064917 | A1 | 19810625 | AU 1980-64917 | 19801128 |
| | AU 537917 | B2 | 19840719 | | |
| | | | | GB 1979-44151 | 19791221 |
| | IL 61652 | A1 | 19900209 | IL 1980-61652 | 19801205 |
| | | | | GB 1979-44151 | 19791221 |
| | IL 77195 | A1 | 19900209 | IL 1980-77195 | 19801205 |
| | | | | GB 1979-44151 | 19791221 |
| | | | | IL 1980-61652 | 19801205 |
| | CA 1146582 | A1 | 19830517 | CA 1980-366436 | 19801209 |
| | | | | GB 1979-44151 | 19791221 |
| | HU 29349 | O | 19840130 | HU 1980-3022 | 19801217 |
| | HU 184360 | B | 19840828 | | |
| | | | | GB 1979-44151 | 19791221 |
| | HU 33440 | O | 19841128 | HU 1983-4528 | 19801217 |

HU 187100	B	19851128	GB 1979-44151	19791221
BR 8008346	A	19810707	BR 1980-8346	19801219
			GB 1979-44151	19791221
			GB 1979-44151	19801120
ES 497979	A1	19811116	ES 1980-497979	19801219
JP 56097251	A2	19810805	GB 1979-44151	19791221
JP 01020143	B4	19890414	JP 1980-179732	19801220
CA 1181768	A2	19850129	GB 1979-44151	19791221
			CA 1982-402850	19820512
			GB 1979-44151	19791221
			CA 1980-366436	19801209
US 4551546	A	19851105	US 1983-551697	19831114
			GB 1979-44151	19791221
			GB 1980-37257	19801120
			US 1980-211943	19801201
			US 1982-339733	19820115
AU 8427715	A1	19840830	AU 1984-27715	19840504
AU 545220	B2	19850704		
			GB 1979-44151	19791221
JP 63239247	A2	19881005	JP 1988-30689	19880212
JP 02012942	B4	19900330		
			GB 1979-44151	19791221
JP 02000125	A2	19900105	JP 1988-261688	19881019
JP 04006694	B4	19920206		
			GB 1979-44151	19791221

PATENT FAMILY INFORMATION:

FAN 1982:562446

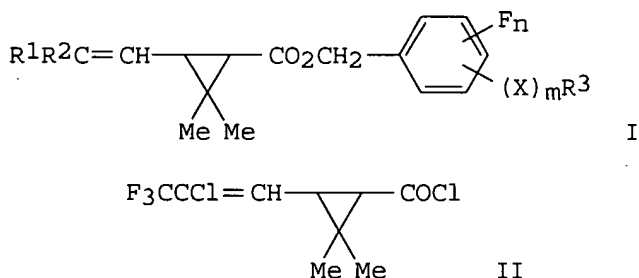
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 54360	A2	19820623	EP 1981-305489	19811120
	EP 54360	A3	19820825		
	EP 54360	B1	19850605		
	R: BE, CH, DE, FR, GB, IT, NL, SE				
	AU 8178241	A1	19820624	GB 1980-40400	19801217
	AU 544081	B2	19850516	AU 1981-78241	19811203
				GB 1980-40400	19801217
	JP 57123146	A2	19820731	JP 1981-202589	19811217
	JP 01050216	B4	19891027		
				GB 1980-40400	19801217
	JP 02000126	A2	19900105	JP 1989-84171	19890404
	JP 02048532	B4	19901025		
				GB 1980-40400	19801217

FAN 1983:405355

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4370346	A	19830125	US 1981-329135	19811209
				GB 1979-44151	19791221
				GB 1980-37257	19801120
				US 1980-211943	19801201
				GB 1980-40400	19801217
	GB 2066810	A	19810715	GB 1980-37257	19801120
				GB 1979-44151	19791221
	US 4405640	A	19830920	US 1980-211943	19801201
				GB 1979-44151	19791221
	IL 77195	A1	19900209	IL 1980-77195	19801205

BR 8008346	A	19810707	GB 1979-44151	19791221
			IL 1980-61652	19801205
			BR 1980-8346	19801219
			GB 1979-44151	19791221
			GB 1979-44151	19801120
US 4429153	A	19840131	US 1982-339733	19820115
			GB 1979-44151	19791221
			GB 1980-37257	19801120
			US 1980-211943	19801201
CA 1181768	A2	19850129	CA 1982-402850	19820512
			GB 1979-44151	19791221
			CA 1980-366436	19801209
US 4551546	A	19851105	US 1983-551697	19831114
			GB 1979-44151	19791221
			GB 1980-37257	19801120
			US 1980-211943	19801201
			US 1982-339733	19820115
US 4868209	A	19890919	US 1987-97827	19870917
			GB 1979-44151	19791221
			GB 1980-37257	19801120
			US 1980-211943	19801201
			GB 1980-40400	19801217
			US 1981-329135	19811209
			US 1982-408922	19820817

GI



AB Cyclopropanecarboxylates I [R₁, R₂ = Me, halomethyl, halo; R₃ = alkyl, alkenyl, PhCH₂, H; X = O, S, SO₂, NR₄ (R₄ = H, alkyl, carboxylic acyl); m = 0, 1; n = 1-4], useful as insecticides and acaricides, were prepd. by 4 methods. C-Methylating 1,2,3,4-F₄C₆H₂ with BuLi and MeI at -60 to -45.degree. gave 2,3,4,5-F₄C₆HMe which was carboxylated with successive addns. of BuLi and CO₂ (g) at -70.degree. to -40.degree. to give 3,4,5,6-F₄C₆(CO₂H)Me-2,1. This was reduced (LiAlH₄ in Et₂O) to 3,4,5,6-F₄C₆(CH₂OH)Me-2,1 which was esterified with 50:50 cis- to trans-cyclopropanecarbonyl **chloride** II to give 50:50 cis- to trans-I [Fn = 3,4,5,6-F₄, (X)_mR₃ = 2-Me] (III). At 50 ppm, III killed 90-100% *Musca domestica* and I [Fn = 2,3,5,6-F₄, (X)_mR₃ = 4-allyl] killed 100% *Tetranychus tetarius*.

L16 ANSWER 58 OF 84 CAPLUS .COPYRIGHT 2003 ACS on STN

AN 1981:569342 CAPLUS

DN 95:169342

TI Synthesis and properties of bis(pentamethylcyclopentadienyl) actinide hydrocarbyls and hydrides. A new class of highly reactive f-element

organometallic compounds

AU Fagan, Paul J.; Manriquez, Juan M.; Maatta, Eric A.; Seyam, Afif M.; Marks, Tobin J.

CS IL, USA

SO Journal of the American Chemical Society (1981), 103(22), 6650-67

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

AB The synthesis, chem., and physicochem. properties of thorium and uranium bis(pentamethylcyclopentadienyl) **chlorides**, hydrocarbyls, chlorohydrocarbyls, and hydrides were reported. The reaction of the precursor compds. $M[.eta.5-(CH_3)_5C_5]_2Cl_2$ with 2 equiv of **lithium** reagent RLi produces $M[.eta.5-(CH_3)_5C_5]_2R_2$ ($R = CH_3, CH_2Si(CH_3)_3, CH_2C(CH_3)_3, CH_2C_6H_5$, and C_6H_5 , $M = Th$; $R = CH_3, CH_2Si(CH_3)_3, CH_2C_6H_5, C_6H_5$, $M = U$) in high yield. With 1 equiv of **lithium** reagent, $M[.eta.5-(CH_3)_5C_5]_2(R)Cl$ ($R = CH_2C(CH_3)_3, CH_2Si(CH_3)_3, CH_2C_6H_5, C_6H_5$, $M = Th$; $R = CH_2C(CH_3)_3, CH_2Si(CH_3)_3, CH_2C_6H_5, C_6H_5$, $M = U$) are formed in high yield. The $M[.eta.5-(CH_3)_5C_5]_2(CH_3)Cl$ compds. can be synthesized by redistribution between the corresponding di-Me and dichloro complexes. The new organoactinides were thoroughly characterized by elemental anal., 1H NMR and vibrational spectroscopy, and in many cases cryoscopic mol. wt. measurements. The hydrocarbyls and chlorohydrocarbyls generally exhibit high thermal stability. However, the di-Ph compds. react readily with C_6D_6 to yield, via a benzyne complex, the corresponding $M(C_6D_5)_2$ compds. The thorium bis(neopentyl) complex reacts with benzene to produce the corresponding di-Ph complex. In probes of bond polarity, the di-Me complexes react rapidly with acetone, alcs., and iodine to produce resp. the corresponding tert-butoxides, alkoxides plus methane, and iodides plus CH_3I . Competition expts. at -78° indicate that the thorium complexes are more reactive than those of uranium. The $M[.eta.5-(CH_3)_5C_5]_2C_5]_2R_2$ compds. undergo hydrogenolysis to yield organoactinide hydrides, $\{M[.eta.5-(CH_3)_5C_5]_2(\mu.-H)H\}_2$, and RH . While the thorium hydride exhibits high thermal stability, that of uranium readily (and reversibly) eliminates H_2 , forming a U(III) hydride. The new hydrides react vigorously with CH_3Cl to produce methane and the corresponding chloro complexes, with acetone to produce isopropoxy complexes, and with alcs. to produce alkoxides and H_2 . The thorium chlorohydride, $\{Th[.eta.5-(CH_3)_5C_5]_2(\mu.-H)Cl\}_2$, can be prepd. by redistribution of the dichloride and dihydride; an alkoxyhydride, $Th[.eta.5-(CH_3)_5C_5]_2[OC(CH_3)_3]H$, can be prepd. by hydrogenolysis of $Th[.eta.5-(CH_3)_5C_5][OC(CH_3)_3]CH_3$. In soln., the metal-bound hydrides of $\{Th[.eta.5-(CH_3)_5C_5]_2(\mu.-H)H\}_2$ rapidly exchange with dissolved H_2 ; this hydride also reacts with ethylene to yield the corresponding di-Et complex. The olefin addn. and hydrogenolysis reactions can be coupled to effect homogeneous, catalytic olefin hydrogenation. The differences between thorium and uranium chem. appear largely to reflect differences in accessible oxidn. states and in metal-ligand bond polarity.

L16 ANSWER 59 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1981:561132 CAPLUS

DN 95:161132

TI Preparation of highly reactive metal powders: New procedure for the preparation of highly reactive zinc and **magnesium** metal powders

AU Rieke, Reuben D.; Li, Percy Tzu-Jung; Burns, Timothy P.; Uhm, Sung T.

CS Dep. Chem., Univ. Nebraska-Lincoln, Lincoln, NE, 68588, USA

SO Journal of Organic Chemistry (1981), 46(21), 4323-4

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

AB Highly reactive Zn and Mg metal powders can be prep'd. by Li redn. of the corresponding metal salt with a catalytic amt. of naphthalene as an electron carrier. Applications to the Reformatskii reaction, the **Grignard reaction**, and cyclopropanation (with dibromomethane) are described.

L16 ANSWER 60 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1980:567250 CAPLUS

DN 93:167250

TI The photochemistry of 4-phenyl-1-iodobutane and 4-phenyl-2-iodomethyl-1-butene

AU Charlton, James Leslie; Williams, Gaynor Jane; Lypka, Gerald Nicholas

CS Dep. Chem., Univ. Manitoba, Winnipeg, MB, R3T 2N2, Can.

SO Canadian Journal of Chemistry (1980), 58(12), 1271-4

CODEN: CJCHAG; ISSN: 0008-4042

DT Journal

LA English

AB The photochem. of 4-phenyl-1-iodobutane (I) and 4-phenyl-2-iodomethyl-1-butene (II) is exam'd. to det. the effect of structure on the character of the intermediates generated on photolysis. The irradiation of I gives only radical intermediates. By contrast the photolysis of II gives products that are more consistent with cationic intermediates.

L16 ANSWER 61 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1979:167959 CAPLUS

DN 90:167959

TI Direct halogen substitution of 1,2-halohydrins by organomagnesiums and -lithiums in presence of copper salt

AU Normant, J. F.; Mulamba, T.; Scott, F.; Alexakis, A.; Cahiez, G.

CS Lab. Chim. Organoelements, Univ. Pierre et Marie Curie, Paris, Fr.

SO Tetrahedron Letters (1978), (39), 3711-12

CODEN: TELEAY; ISSN: 0040-4039

DT Journal

LA French

AB $\text{MeCHRCH}_2\text{OMgCl}$ (I; R = Cl, Br, iodo) reacted with BuMgCl , in the presence of 5% CuBr , by 3 routes: by intermediate epoxide formation giving $\text{MeCH(OH)CH}_2\text{Bu}$ (II) (2, 2, 52% resp.), by direct substitution giving $\text{MeCHBuCH}_2\text{OH}$ (III) (29, 44, 0%, resp.), and by Tiffeneau rearrangement giving EtCH(OH)Bu (IV) (14, 6, 0%, resp.). Vinylic and allylic organomagnesiums reacted selectively by direct substitution. Thus R_1MgCl (V; $\text{R}_1 = \text{CH}_2\text{:CH}$, Ph, $\text{CH}_2\text{:CHCH}_2$, $\text{CH}_2\text{:CMeCH}_2$, $\text{Me}_2\text{C:CHCH}_2$) with I (R = Br) in the presence of 5% CuBr in THF followed by H_3O^+ gave 60-80% $\text{MeCHR}_1\text{CH}_2\text{OH}$. In the absence of CuBr , V ($\text{R}_1 = \text{Me}_2\text{C:CHCH}_2$) reacted with I (R = Br) in THF at 20.degree. for 2 h to give 77% $\text{CH}_2\text{:CHCMe}_2\text{CHMeCH}_2\text{OMgCl}$. The direct halogen substitution reaction is also applicable to organolithiums. Thus BuLi with $\text{MeCHBrCH}_2\text{OLi}$ in Et₂O in the presence of 5% CuBr at 10.degree. for 2 h gave 2% II, 40% III, and 20% IV.

L16 ANSWER 62 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1978:614835 CAPLUS

DN 89:214835

TI Synthesis of acetylenic alcohols by alkylation of .omega.-hydroxy-1-alkynes

AU Flahaut, Jacques; Miginiac, Philippe

CS Lab. Chim. Organomet., Univ. Poitiers, Poitiers, Fr.

SO Helvetica Chimica Acta (1978), 61(6), 2275-85

CODEN: HCACAV; ISSN: 0018-019X

DT Journal
 LA French
 AB HC.tplbond.CCHRCR1R2OH (R = R1 = R2 = H; R = R1 = H, R2 = alkyl; R = H, R1 and R2 are alkyl; R = Pr, R1 = R2 = Et), HC.tplbond.CCH2CH2CRR1OH (R = R1 = H; R = H, R1 = Me; R = Me, R1 = Et), and HC.tplbond.C(CH2)3CHROH (R = H, Pr) were alkylated by alkyl bromides and iodides and LiNH2 to give R3C.tplbond.CCHRCR1R2OH, R3C.tplbond.CCH2CH2CRR1OH, and R3C.tplbond.(CH2)3CHROH (R3 = Me, Et, Bu, Pr).

L16 ANSWER 63 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1977:71780 CAPLUS

DN 86:71780

TI Study of the reaction of organometallic compounds (M = zinc, **magnesium**, **lithium**) with conjugated enynes. I. The hydrocarbons HC.tplbond.C-C(R):C(R')(R''); effect of the structure on reactivity and regioselectivity

AU Mesnard, D.; Miginiac, L.

CS Lab. Synth. Org., Univ. Poitiers, Poitiers, Fr.

SO Journal of Organometallic Chemistry (1976), 117(2), 99-115

CODEN: JORCAI; ISSN: 0022-328X.

DT Journal

LA French

AB Reactive organometallic compds. such as allylzinc, **magnesium**, **lithium** and satd. **lithium** compds. readily undergo addn. reactions with conjugated enynes., HC.tplbond.CCR:CR1R2, but the reactivity is reduced when the steric hindrance around the double bond is increased. With each organometallic compd. used, this reaction is regioselective: 3,4-addn. with organozinc compds., 1,2-addn. with organolithium compds. (allyl, butyl), and both 1,2- and 1,4-addn. with organomagnesium compds.

L16 ANSWER 64 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1976:170295 CAPLUS

DN 84:170295

TI Catalyst

IN Carney, Robert L.

PA Zoecon Corp., USA

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3948803	A	19760406	US 1974-473628	19740528
				US 1974-473628	19740528

AB Organometallic catalysts are described for the alkylation of a Grignard reagent by an org. halide or an org. sulfonate ester. The catalyst is a soln. of a compd. of the formula MX(CuCr)n, where M is Li or Mg, X is chloro or bromo, and n is 1, 2, or 3, in a solvent. The preferred catalyst is Li[CuCl(CN)] in tetrahydrofuran. Other catalysts were prepd. from CuCN and LiBr or MgCl2. In an example, the catalyst was used to prep. Z-9-tricosene from amylmagnesium bromide Grignard reagent and Z-9-octadecenyl bromide.

L16 ANSWER 65 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1975:578229 CAPLUS

DN 83:178229

TI Synthesis of 3Z-nonenal and 3Z,6Z-nonadienal
AU Kajiwarara, Tadahiko; Otake, Yoshinobu; Hatanaka, Akikazu
CS Dep. Agric. Chem., Univ. Yamaguchi, Yamaguchi, Japan
SO Agricultural and Biological Chemistry (1975), 39(8), 1617-21
CODEN: ABCHA6; ISSN: 0002-1369
DT Journal
LA English
AB 3Z-Nonenal and 3Z,6Z-nonadienal, potential biosynthetic precursors of 2E-nonenal and 2E,6Z-nonadienal, were for the first time synthesized stereoselectively.

L16 ANSWER 66 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1975:459799 CAPLUS
DN 83:59799
TI Aromatic hydrocarbon polymers
IN Hay, Allan S.; Relles, Howard M.
PA General Electric Co.
SO U.S., 3 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3810879	A	19740514	US 1972-240786	19720403
				US 1972-240786	19720403

AB Arom. diolefins, such as 2,2-bis(4-phenyl-3-cyclohexen-1-yl)propane (I), were manufd. by **Grignard reaction**, and polymd. in the presence of Li to give arom. hydrocarbon polymers, such as poly[2,2-bis(4-phenyl-3-cyclohexen-1-yl)propane] (II) useful for dielectrics. Thus, a mixt. of I 10 (by reaction of 2,2-bis(4-oxocyclohexyl)propane with bromophenyl Mg) and Li 6 in THF 200 parts was stirred for 11 hr at .apprx.25.degree. in N, and treated with 510 parts CH3OH to ppt. II with 90% yield and 26,500 mol. wt.

L16 ANSWER 67 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1975:443413 CAPLUS
DN 83:43413
TI Halomethyl-metal compounds. LXXIII. Grignard reagents derived from gem-dibromocyclopropanes. .alpha.-Bromocyclopropyltin compounds as precursors for .alpha.-bromocyclopropyllithium reagents by transmetalation
AU Seyferth, Dietmar; Lambert, Robert L., Jr.
CS Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, USA
SO Journal of Organometallic Chemistry (1975), 88(3), 287-301
CODEN: JORCAI; ISSN: 0022-328X
DT Journal
LA English
AB The reaction of Me2CHHgCl in THF with gem-dibromocyclopropanes give .alpha.-bromocyclopropylmagnesium **chlorides** which are unstable at room temp. and give carbene-derived products. At about -70.degree. these reagents are stable and can be used in synthesis. Protolysis gives a mixt. of syn and anti isomers when these are possible, but when treated with Me3SnCl, only the isomer with the Me2Sn substituent in the anti position is obtained. Treatment of syn-7-bromo-anti-7-trimethylstannylnorcarane with BuLi at -95.degree. gave only syn-7-bromo-anti-7-lithionorcarane; stereospecific reactions of this reagent with CO2 and C2Cl6 are described. In situ Grignard-Wurtz reactions were used to prepare 7,7-bis(trimethylsilyl)- and

7,7-bis(trimethylstannyl)norcarane.

- L16 ANSWER 68 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1974:551268 CAPLUS
DN 81:151268
TI Quasi-Favorskii rearrangement. Synthesis of 1-phenylcycloalkanecarboxylic acids
AU Stevans, Calvin L.; Pillai, P. Madhavan; Taylor, K. Grant
CS Dep. Chem., Wayne State Univ., Detroit, MI, USA
SO Journal of Organic Chemistry (1974), 39(21), 3158-61
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
AB .alpha.-Halo ketones without an .alpha.-H undergo C skeleton rearrangements on treatment with the Li salt of arom. primary amines in ether, yielding amides. The action of Li anilide on 1-benzoyl-1-bromocyclohexane gave 55% 1-phenyl-cyclohexanecarboxanilide and 30% 1-benzoyl-1-(phenylamino)-cyclohexane. The yield of the rearranged amide was improved by using a more hindered amine such as .omicron.-toluidine or 2,6-dimethylaniline. Also, a p-MeO substituent on the phenyl group of the .alpha.-halo ketone facilitated the rearrangement while a m-Cl substituent decreased the yield of the rearranged amide. The extension of this rearrangement to .alpha.-bromocycloalkyl Ph ketones and hydrolysis of the resulting amides gave 1-phenylcycloalkane-carboxylic acids. Treatment of endo-2-benzoyl-exo-2-bromonorbornane with Li anilide gave endo-2-phenylnorbornane-exo-2-carboxanilide, as expected from a concerted semibenzilic rearrangement mechanism.
- L16 ANSWER 69 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1973:477674 CAPLUS
DN 79:77674
TI Organometallic compounds. LIII. Mechanism of hydrolysis of organoaluminum complexes
AU Lehmkuhl, Herbert; Nehl, Hans
CS Max-Planck-Inst. Kohlenforsch., Muelheim/Ruhr, Fed. Rep. Ger.
SO Justus Liebigs Annalen der Chemie (1973), (4), 659-65
CODEN: JLACBF; ISSN: 0075-4617
DT Journal
LA German
GI For diagram(s), see printed CA Issue.
AB Competitive action of 1:1 H2O-D2O mixts. on the complex I showed that protolysis of I is preceded by rate-detc. complex formation of water with the Al compd. Hydrolysis of the Mg compd. II, of Al-alkyl (alkyl = Me or Et) bonds, and of Al-C bonds of other trialkylaluminum compds. revealed an isotope effect whose magnitude indicated that cleavage of the OH(D) bond detd. the rate of reaction.
- L16 ANSWER 70 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1973:454020 CAPLUS
DN 79:54020
TI Preparation of poly(p-(.omega.-lithium alkyl)styrenes) and their use as polymer metalating agents
AU Hallensleben, Manfred L.
CS Inst. Makromol. Chem., Univ. Freiburg, Freiburg/Br., Fed. Rep. Ger.
SO Angewandte Makromolekulare Chemie (1973), 31, 147-59
CODEN: ANMCBO; ISSN: 0003-3146
DT Journal
LA German

AB The lithiated polymers I ($n = 1-4$) were prepd. by reaction of the corresponding halogen compds. with BuLi. I were as reactive as BuLi in the metalation of compds. such as fluorene [86-73-7] and 1-bromonaphthalene [90-11-9], and could be easily regenerated. The no. of active sites gradually decreased, owing to Wurtz-Fittig reactions between I and substrate.

L16 ANSWER 71 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1968:506783 CAPLUS

DN 69:106783

TI Reaction of organolithium and organomagnesium compounds with carbonyl derivatives of barenes and neobarenes

AU L'vov, A. I.; Zakharkin, L. I.

CS Inst. Elementoorg. Soedin., Moscow, USSR

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1967), (12), 2653-62
CODEN: IASKA6; ISSN: 0002-3353

DT Journal

LA Russian

GI For diagram(s), see printed CA Issue.

AB Tertiary carboranyl alcs. are cleaved at C-C bond by catalytic amts. of RONA. Reaction of MeMgI with 0.3 mole 1-methyl-2-acetylcarborane (I) in Et₂O gave 53% starting ketone, 42% methylcarboranyl(dimethyl)carbinol (II) and 4.8% methylcarborane (III); MeLi similarly gave 84% starting ketone and 16% III; similar reaction in tetrahydrofuran (THF) gave from MeMgI 43% starting ketone, 32% III and 25% II, while with MeLi 90% III was formed and 10% unreacted ketone was recovered. Methylcarboranylmagnesium bromide (IIIa) in THF treated with Me₂CO 3 hrs. gave 8% II and 92% III. II kept overnight with EtONa in EtOH gave no residual II and a considerable amt. of III. MeMgI and methylcarboranylcarboxyl chloride in Et₂O gave 30% II, m. 87-9.degree.. EtMgBr and I in Et₂O gave in 0.5 hr. 94% 1-methylcarboranylethanol, m. 153-4.degree.. 1-Methyl-7-acetylneocarborane and MeMgI in Et₂O 0.5 hr. gave 91.5% starting ketone and 8.5% methylneocarboranyldimethylcarbinol (IV); MeLi similarly gave 55% above carbinol and 3% methylneocarborane, besides 42% initial ketone. Methylneocarboranyllithium (V) in C₆H₆ gave with Me₂CO (20% excess) in 2 hrs. 95% IV, m. 29-30.degree.. MeMgI and 1-methyl-7-benzoylneocarborane gave in 2 hrs. in Et₂O 62% (methylneocarboranyl)phenylmethylcarbinol, b1.cntdot.5 152-3.degree., n_{20D} 1.5807, also obtained from AcPh and V. Similar reaction with PhMgBr gave 88% (methylneocarboranyl)diphenylcarbinol, m. 90-1.degree.. MeMgI and 2,3-carborano-4,5-benzocyclopentanone in Et₂O gave 82% VI m. 140-1.degree.; MeLi gave 76% VI, while PhLi gave 77% VII, m. 165-6.degree.. Bis(phenylcarboranyl) ketone and MeMgI in Et₂O gave 82% bis(phenylcarboranyl)carbinol, m. 272-4.degree., while PhMgBr gave in 10 hrs. at 45.degree. in Et₂O-C₆H₆ 66.7% same carbinol. 1-Phenyl-2-benzoylcarborane (VIII) and MeMgI gave 45% (phenylcarboranylmethyl)methylcarbinol, m. 128-9.degree., while the filtrate from this was treated with CrO₃ to yield VIII, phenyl(phenylcarboranyl)carbinol (IX) and (phenylcarboranyl)phenylmethylcarbinol, all isolated as acetates after acetylation with Ac₂O. PhMgBr and VIII in THF gave 88% IX m. 122-4.degree., and some phenylcarborane (X); similar reaction in Et₂O gave Ph₂, X and Ph₃COH as well as [o-PhCB10H10CC(OH)Ph]₂, m. 239-40.degree.. PhLi and methylcarboranecarboxaldehyde (XI) in Et₂O 0.5 hr. gave 85% (methylcarboranyl)phenylcarbinol (XII), m. 107.degree.; the same formed from this reaction in THF. IIIa and XIa in Et₂O gave 93.5% 1-(methylneocarboranyl)-2-carboranyl-1-ethanol, m. 239-40.degree.. The appropriate aldehyde and methylcarboranyllithium gave 95% bis(methylcarboranyl)carbinol, m. 177-8.degree.. XII and EtONa-EtOH in 12

hrs. at 20.degree. gave III as the sole product. iso-PrMgBr and XI in Et₂O gave 92% methylcarboranylcarbinol, m. 268-9.degree.. Ozonolysis of vinyl or allyl carborane or neocarborane and treatment of the mixt. with Me₂S at -30.degree. gave after warming and an aq. treatment the following aldehydes RCHO: o-HCB10H10C, m. 212-13.degree. (2,4-dinitrophenylhydrazones, m. 183-4.degree.); o-MeCB10H10C, m. 220-2.degree. (189.degree.); o-HCB10H10CCH₂, m. 94-5.degree. (m. 163-4.degree.); o-MeCB10H10CCH₂, m. 140-2.degree. (m. 176-7.degree.); m-MeCB10H10C, m. 143-4.degree. (m. 177-8.degree.); m-MeCB10H10CCH₂, b2 98.degree., (m. 154-5.degree.). Carboranylolithium or corresponding RMgX in THF treated with ethoxymethylaniline and heated 1 hr. gave after an aq. treatment and steam distn. of the org. layer with dil. H₂SO₄ 40-55% carboranecarboxaldehyde, XI and 25% XIa. (Methylneocarboranyl)methylcarbinol acetate, b7 127-30.degree., gave 1-methyl-7-vinylneocarborane, m. 75-6.degree.. Allyl bromide added to V in C₆H₆ and heated 2 hrs. gave 80% 1-methyl-7-allylneocarborane, b7 95-6.degree., n₂₂D 1.5260, d₂₀ 0.9040. Similarly was prepd. 80% 1-methyl-2-allylcarborane, b13 142-3.degree., d₂₀ 0.9295.

L16 ANSWER 72 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1964:483858 CAPLUS

DN 61:83858

OREF 61:14557b-d

TI The action of anhydrous cobalt **chloride** and anhydrous uranyl nitrate on several aromatic organomagnesiums and organolithiums. Coupling reactions. I

AU Morizur, Jean Pierre

CS Ecole Natl. Super. Chim., Paris

SO Bulletin de la Societe Chimique de France (1964), (6), 1331-7

CODEN: BSCFAS; ISSN: 0037-8968

DT Journal

LA Unavailable

AB The action of small amts. of anhyd. COCl₂ on various Grignard reagents (RMgBr) in the presence of PhBr or BuBr gave the dimeric species R₂. Compds. prepd. in this way were 55% 2,2'-dimethylbibenzyl; 53% 2,3-dibenzylbutane, b0.07 110.degree.; 55% 2,5-diphenylhexane; 50% 4,4'-diisopropylbiphenyl (II), 60% 4,4'-di(tert-butyl)biphenyl (III); 55% 1,1,2,2-tetraphenylethane (IV) 2,2'-dimethoxy-5,5'-dimethylbiphenyl (V), and 25% 2,2'-bithiophene (VI). 4-H₂C:CHCH₂C₆H₄MgBr gave an uncharacterized polymeric product. Neither PhMgBr nor 4-BrC₆H₄MgBr gave the desired dimer. The latter gave 4-BrC₆H₄Bu with BuBr. Analogous dimerization reactions were observed with various organolithium (RLi) compds. and COCl₂ in the presence of PhBr. Compds. prepd. in this way were 65% 2,2'-dimethylbiphenyl, 60% 4,4'-dimethylbiphenyl, 60% I, 60% II, 60% III, 60% IV, 55% 4,4'-dimethoxybiphenyl, 65% V, 65% 4,4'-(N,Ndimethylamino)biphenyl, and 30% VI. All of the coupling reactions are vigorously exothermic. Mechanisms for the reactions are suggested. The reaction of anhyd. UO₂(NO₃)₂ with PhMgBr or PhLi proceeds vigorously to give C₆H₆, Ph₂ (.apprx.25%), and a ppt. of UO₃.x-H₂O where x = 0.5-2.0.

L16 ANSWER 73 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1964:60729 CAPLUS

DN 60:60729

OREF 60:10625c-d

TI Halogen-metal interchange reactions of 3,3,3-trichloro-1,2-epoxypropane and of chloral with organolithium compounds and Grignard reagents

AU Reeve, Wilkins; Fine, Leonard W.

CS Univ. of Maryland, College Park

SO Journal of the American Chemical Society (1964), 86(5), 880-2
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA Unavailable
AB 3,3,3-Trichloro-1,2-epoxypropane reacts with MeLi or PhLi to form 3,3-dichloroallyl alc. and Me Cl or PhCl. The formation of these products shows that a halogen-metal interchange reaction has occurred. None of the products expected from the opening of the epoxide ring by a carbanion could be detected. Even with BuMgCl and with Bu₂Mg, a similar halogen-metal interchange reaction occurs. This is believed to be the first case reported in which a Grignard reagent undergoes a halogen-metal interchange reaction rapidly and to the exclusion of the usually observed reaction path. With BuMgCl, the epoxide ring is also attacked by **chloride** ion, but not by the Bu carbanion, and the chlorohydrin is formed. PhLi also undergoes a halogen-metal interchange reaction with chloral rather than adding to the carbonyl group in the expected manner. The above reactions indicate that the Cl₃C group is unusually reactive in the halogen-metal interchange reaction.

L16 ANSWER 74 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1963:422397 CAPLUS
DN 59:22397
OREF 59:4104e-g
TI Optical rotatory properties of polyaldehydes
AU Abe, Akihiro; Goodman, Murray
CS Polytech. Inst. of Brooklyn, Brooklyn, NY
SO Journal of Polymer Science (1963), Pt. A 1(6), 2193-205
CODEN: JPSCAU; ISSN: 0022-3832
DT Journal
LA Unavailable
AB The optical rotatory activity of poly-(R)(+)-citronellal, poly-(R)(+)-6-methoxy-4-methylhexanal, and poly-(S)(+)-2-methylbutanal are essentially independent of their intrinsic viscosity and polymer crystallinity. Changes in temp. alter the equls. among conformation forms. Enhancement of the optical activity arises from a conformational rigidity around the asymmetric center in the side chain of the polymer. (R)(+)-Citronellal (I) is obtained by vacuum distn., and the fraction b2 60-2.degree., [α]_{26D} + 12.9.degree. (c 0.0558, C₆H₆) is collected. I. is reduced to (R)(+)-citronellol in ether with LiAlH₄, [α]_{23D} + 4.53.degree. (c 0.0367, C₆H₆) and converted to the (R)(+)-citronellyl methyl ether (II), b1 58-60.degree., [α]_{23D} 5.59.degree., (c 0.0838, C₆H₆). II is cleaved by ozonolysis and the ozonide reduced to (R)(+)-6-methoxy-4-methylhexanal (III), b2 45.degree., [α]_{26D} + 2.47.degree. (c 0.0263, C₆H₆), n_{23D} = 1.4301, d_{23D} = 0.907. (R)(S)-2-Methylbutanal (IV), b.p. 92-5.degree. at 1 atm. is prepd. from 2-bromobutane by the **Grignard reaction**, and (S)(+)-2-methyl-butanal (V), [α]_{26D} 30.7.degree. (c 0.0654, C₆H₆) is prepd. by the oxidn. of active primary amyl alc. Polymerizations of I, III, IV, and V in Et₂O or hexane as solvent and with a variety of catalysts are described.

L16 ANSWER 75 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1963:3349 CAPLUS
DN 58:3349
OREF 58:541g-h
TI The addition of methyl Grignard to 4-tert-butylcyclohexanone
AU Houlihan, William J.
CS Universal Oil Prod., East Rutherford, NJ

- SO Journal of Organic Chemistry (1962), 27, 3860-4
CODEN: JOCEAH; ISSN: 0022-3263
- DT Journal
- LA Unavailable
- AB The addn. of methyl Grignard to 4-tert-butylcyclohexanone was studied under a variety of exptl. conditions. It was found that the cis-trans ratio of the resultant 1-methyl-4-tert-butylcyclohexanol is affected by the methyl halide used to form the Grignard reagent, the solvent, and the addn. of **magnesium** halide. The **magnesium** source, presence of air, or cuprous halide had negligible effect on the reaction. For the reactions carried out in diethyl ether, the cis-trans ratios are methylmagnesium iodide--1.02, methylmagnesium bromide--1.36, dimethylmagnesium--1.40, methylmagnesium **chloride**--1.44, methylmagnesium bromide di(**magnesium** bromide)--1.84. The reaction of methylmagnesium bromide in various solvents gave anisole--1.11, diethyl ether--1.36, tetrahydrofuran--2.26. Methyllithium in diethyl ether gave a ratio of 1.86.
- L16 ANSWER 76 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN
- AN 1962:403839 CAPLUS
- DN 57:3839
- OREF 57:728d-i,729a-g
- TI Reactions of .alpha.-dimethylaminophenylacetonitrile and its ethylation product with basic or nucleophilic reagents
- AU Morris, Gene F.; Hauser, Charles R.
- CS Duke Univ., Durham, NC
- SO Journal of Organic Chemistry (1962), 27, 465-71
CODEN: JOCEAH; ISSN: 0022-3263
- DT Journal
- LA Unavailable
- AB A study was made of the reactions of .alpha.-(dimethylamino)phenylacetonitrile (I) and its ethylation product (II) with basic or nucleophilic reagents including KNH₂, BuLi, Grignard reagents, LiAlH₄, and Na. The reactions of I involved ionization of the .alpha.-H, addn. to the nitrile C, and displacement of the nitrile group from the .alpha.-C; those of II occurred at the nitrile C and .alpha.-C. Some interesting comparisons were made between the reactions of phenylacetonitrile and I and between those of I and II. I, b0.8 76-8.degree., n₂₅D 1.5116, was prepd. in 94% yield from BzH and the appropriate reagents. I converted into its carbanion by KNH₂ in NH₃ and this carbanion ethylated with EtBr using 0.8 mole each of the reactants in 800 ml. NH₃ gave 137-40 g. II, b0.5 70-2.degree., n₂₅D 1.5113. In an attempt to effect self-condensation of I, a mixt. of 0.10 mole I and 0.05 mole KNH₂ in 400 ml. liquid NH₃ stirred 8 hrs., replaced by Et₂O, stirred 14 hrs. at 25-30.degree., 4 ml. AcOH added, followed by H₂O, and worked up gave 76% I. BuLi (100 ml.) added to 16.7 g. I in 250 ml. Et₂O cooled in an ice bath, after 6 hrs. 13 g. EtBr added, left 1 hr. at room temp., then 250 ml. 1.5N HCl added, refluxed overnight, the 2 layers sepd., the aq. acid layer extd. with Et₂O, dried, and the residue distd. gave 6 g. propiophenone, b_{4.2} 77-8.degree., n₂₅D 1.5232; 2,4-dinitrophenylhydrazones m. 194-5.degree.. The acid layer made alk. and extd. with Et₂O gave 8.9 g. 1-dimethylamino-1-phenyl-2-pentanone (III), b_{0.3} 95-8.degree., n₂₇D 1.5038. Similar results were obtained in other expts. in which the temp. was varied from -80.degree. to 35.degree. and the ratio of propiophenone to III varied considerably. EtMgI (139 ml., 0.793N) added to 16 g. I in 100 ml. Et₂O, the mixt. stirred 24 hrs. at room temp., and the product distd. gave 13.8 g. 1-dimethylamino-1-phenylpropane (IV), b_{0.3} 41-2.degree., n₂₄D 1.5012; picrate m. 167.5-9.0.degree.. The reaction was carried out under several sets of

conditions and the following results obtained (mole- equivs. EtMgI, temp., time in hrs., % yield of IV, % recovered I given): 0.5, 20.degree., 14, 36, 45; 1.0, 20.degree., 24, 67, n -; 1.0, 35.degree., 2, 48, -; 1.0, 35.degree., 24, 79, 9; 1.1, 35.degree., 24, 85, 0. Recovered I was characterized by acid catalyzed hydrolysis to BzH. BuMgBr (175 ml., 0.677N) added to 17.25 g. I in 250 ml. Et2O at 0.degree., after 48 hrs. the mixt. worked up, and the product distd. gave 16.85 g. 1dimethylamino-1-phenylpentane, b0.95 77-8.degree., n18D 1.5002; picrate m. 159-60.degree.. PhMgBr (from 0.2 mole PhBr) in 200 ml. tetrahydrofuran treated with 0.1 mole I in 100 ml. tetrahydrofuran, the mixt. refluxed 5 hrs., decompd., and evapd. gave 22 g. benzhydryldimethylamine-HCl, m. 217-22.degree.. A sample of this salt was hydrolyzed to liberate the free amine, m. 68-70.degree.; MeI salt m. 172-4.degree.. p-Chlorobenzylmagnesium **chloride** (from p-chlorobenzyl **chloride**) treated with I gave 1-dimethylamino-1-phenyl-2-(4-chlorophenyl)ethane, b0.57 129-30.degree., n25.5D 1.5644; picrate m. 1345.5.degree.. tert-Butyl **magnesium chloride** (195 ml., 0.662 N) dild. with 300 ml. Et2O, 16 g. I in 50 ml. Et2O added, after 10 min. 11 g. EtBr added slowly, stirred 1 hr., treated with 100 ml. 2N HCl, the aq. acid layer heated 16 hrs., cooled, extd. with Et2O, dried, and evapd. gave 1.36 g. benzaldehyde 2,4-dinitrophenylhydrazone. No propiophenone was detected. The aq. acid soln. gave 11.1 g. benzyldimethylamine, b15 66-7.degree., n26D 1.4987; picrate m. 93-4.degree.. LiAlH4 (7.6 g.) in 200 ml. Et2O treated with 32 g. I in 100 ml. Et2O to maintain reflux (1260 ml. H evolved), after refluxing 24 hrs. 50 ml. H2O added slowly, the ether sepd., dried, evapd., and the residue distd. gave 17.2 g. material, b0.6 80.degree.. The distillate warmed 24 hrs. with 3N HCl and Et2O gave 14.9 g. 2-dimethylamino-2-phenylethylamine, b0.5 65.degree., n28D 1.5235. I (16 g.) added to 4.6 g. Na in 300 ml. liquid NH3, after 10 min. 16 g. EtI in 100 ml. Et2O added, left 1 hr., decompd., evapd., and the residue distd. gave 7.1 g. benzyldimethylamine, b5 56-8.degree., and 5.05 g. II, b0.4 70-2.degree.; benzyldimethylamine picrate m. 93-4.degree.. In another expt., in which no EtI was used, was obtained 62% benzyldimethylamine. 2-Morpholino-2-phenylacetonitrile (V) (0.1 mole) in Et2O stirred 16 hrs. with 0.3 mole PhCH2MgCl and the product crystd. gave 20 g. 1-morpholino-1,3-diphenyl-2-propanone, m. 55-60.degree.; HCl salt m. 204-6.degree.. KNH2 (0.2 mole) in 500 ml. liquid NH3 treated 4 hrs. with 37.6 g. II, the product treated with 10.6 g. NH4Cl, evapd., and the product collected gave 22.6 g. 2-dimethylamino-2-phenylbutyramidine (VI), m. 126-7.degree. (C6H6-hexane). Cyclization was effected using 3 g. acetylacetone and 1 g. anhyd. K2CO3 to 6.1 g. VI in 50 ml. alc., refluxing 16 hrs., pouring into 400 ml. H2O, and crystg. to give 2.4 g. 2-(1-phenyl-1-dimethylaminopropyl)-4,6-dimethylpyrimidine, m. 223-5.degree. (MeOH). When II was treated with LiNH2 no amidine was isolated and 91% II was recovered. BuLi (125 ml. 1.64N) treated dropwise with 36.2 g. II in 150 ml. Et2O, the soln. left overnight, cooled, treated with H2O, extd. with Et2O, and the residue distd. gave 26 g. 3-phenyl-3-dimethylamino-4-octane ketimine (VII), b0.27 114.degree., n24D 1.5218. VII (5.2 g.) heated 20 hrs. with 5% HCl at 50.degree. gave 4.4 g. 3-phenyl-3-dimethylamino-4-octanone, b0.3 104-5.degree., n22D 1.5132. PhLi (500 ml. 0.48 N) refluxed 3 hrs. with 45 g. II in 100 ml. Et2O, left overnight, and the product distd. gave 44.8 g. 2-dimethylamino-1,2diphenyl-1-butanone ketimine (VIII), b0.3 134-4.degree., m. 76.58.0.degree.. VIII (10 g.) hydrolyzed 16 hrs. with 5% HCl gave 93% 2-dimethylamino-1,2-diphenyl-1-butanone, b0.25 143-4.degree., n26D 1.5784. LiAlH4 (5.9 g.) in 200 ml. Et2O treated dropwise while refluxing with 28.2 g. II in 75 ml. Et2O, stirred 7 hrs., and the mixt. worked up gave 22 g. 1-dimethylamino-1-phenylpropane, b0.7

43-4.degree., n_D 1.5010; picrate m. 167.5-9.0.degree.. Na (9.2 g.) in 500 ml. liquid NH₃ treated with 27.6 g. II, the soln. treated with 100 ml. Me₃COH, evapd., the residue treated with 100 ml. H₂O and 110 ml. concd. HCl, evapd., cooled, the acid soln. made alk., the mixt. extd. with Et₂O, dried, the solvent removed, and the residue distd. gave 28.9 g. IV.

L16 ANSWER 77 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:44254 CAPLUS

DN 50:44254

OREF 50:8446c-h

TI The deuterium isotope effect in the methanolysis of some organometallic compounds

AU Wiberg, Kenneth B.

CS Univ. of Washington, Seattle

SO Journal of the American Chemical Society (1955), 77, 5987-90

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB The Bu, Ph, and PhCH₂ Grignard and Li reagents react with MeOD faster or as fast as with ordinary MeOH. A similar isotope effect was noted in the reaction of MeCHNaCO₂Me (I) with MeOH. The results are compared with the data available in the literature. The isotope effect of the neutralization of the C-anion of PhCH(OH)CN (II) also was detd., and the rate law for the benzoin condensation has been reconsidered based on this evidence. MeOH and D₂O fractionated through a column gave MeOD. BuMgBr (0.1 mole) in 80 cc. Bu₂O refluxed in a slow stream of N, the mixt. treated with 1 cc. MeOD in 20 cc. Bu₂O and heated, and the resulting C₄H₁₀ swept with N into a Dry Ice-Me₂CO trap gave C₄H₁₀ contg. 33.5 +- 0.2% D. BuMgBr (from 2.1 g. BuBr and 0.28 g. Mg) in 15 cc. Bu₂O, refluxed in a slow stream of N and then added slowly to 5 cc. MeOD contg. 33.5-4.5% D in 15 cc. Bu₂O with stirring, and the resulting butane isolated in the usual manner gave in 3 identical runs butane with 38.8, 38.9, and 36.3% D (isotope effect kH/kD 0.83, 0.83, and 0.87), resp. A similar reaction with an equiv. amt. Li for the Mg gave quite erratic results and low yields of butane which were overcome by using C₆H₆ as the solvent. BuBr gave thus with Li and MeOD contg. 33.5% D in 2 runs butane contg. 33.6 and 33.7% D (isotope effect 1.00 and 0.99), resp. PhMgBr from 3.1 g. PhBr, 0.50 Mg, and 15 cc. dry Et₂O added with stirring to 8 cc. MeOD contg. 33.5 and 36.7% D, the mixt. treated after 10 min. with dil. HCl, and the org. layer dried and distd. gave C₆H₆, b. 78-82.degree., contg. 34.4 and 37.5% D, resp. (isotope effect 0.96, 0.97); the C₆H₆ contg. small amts. of Et₂O and Bu₂O which did not interfere with the mass spectrum analysis. PhLi and MeOH contg. 34.5 and 33.5% D gave C₆H₆ contg. 37.1 and 35.7% D (isotope effect 0.89 and 0.91), resp. PhCH₂MgCl from 2.5 g. PhCH₂Cl and 0.50 g. Mg added to MeOD contg. 33.5 (36.7)% D, and the mixt. worked up in the usual manner gave toluene contg. 35.0 (36.9)% D [isotope ratio 0.93 (0.99)]. EtCO₂Me (3 cc.) added with shaking to 100 cc. 0.45N Ph₃CNa, the resulting Et₂O soln. of I added with stirring to 15 cc. MeOD contg. 75.7% D, the mixt. treated after 0.5 min. with stirring rapidly with 55 cc. N HCl, and the Et₂O soln. washed, dried, and distd. gave 1.5 cc. EtCO₂Me, b. 77-9.degree., contg. 72.8% D (isotope effect 1.16). The benzoin condensation carried out as described previously (C.A. 49, 13184e) but with 93.7% pure EtOD showed after 75 and 120 min. 23 and 32% exchange with rate consts. k_e of 3.5 and 3.2 .times. 10⁻³, resp.; with 52.0% pure EtOD 10 and 16% exchange occurred after 75 and 120 min., resp., with an av. rate const. k_e of 1.5 +- 0.1 .times. 10⁻³.

L16 ANSWER 78 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:35956 CAPLUS

DN 50:35956

OREF 50:7072d-g

TI Addition reactions of triazenes, illustrating the reactivity of N:N double bonds

AU Klages, Friedrich; Mesch, Walter

CS Univ. Munich, Germany

SO Chemische Berichte (1955), 88, 388-96

CODEN: CHBEAM; ISSN: 0009-2940

DT Journal

LA Unavailable

AB When azo compds. are converted to triazenes, the N:N double bonds become less ready to undergo nucleophilic addn. reactions so that triazene derivs. cannot be obtained by such reactions (cf. Gilman and Pickens, C.A. 19, 2936). Reaction of PhN:NNHPh (I) with EtMgBr in Et2O or tetrahydrofuran leads to elimination of C2H6 and recovery of I when the red complex is hydrolyzed with dil. aq. NH4Cl. I is also recovered when the red complex of I with PhLi in Et2O or C6H6 solns. is destroyed, or on decompn. of the complex of I with LiAlH4, m. 245.degree., in Et2O or tetrahydrofuran. Reaction of I with EtMgBr in Et2O and refluxing with BzCl leads to formation of N; on hydrolysis PhNBz2 (II), m. 161.degree., is formed, while the same reaction at 0.degree. gives PhN2Cl (III) as well as II. Reaction of EtMgBr in Et2O with PhN:NHMe, then with BzCl, gives C2H6, N2, and II. PhN:NNBzPh with BzCl in Et2O in the presence of SbCl5, BF3, ZnCl2, or MgBr2 with cooling yields III after hydrolysis. EtMgBr with PhN:NNMe2 (IV) in tetrahydrofuran gives C2H6, N, and, after hydrolysis of the complex, 1,4-diphenyl-2,5-diethylhexahydro-1,2,4,5-tetrazine, m. 124.degree., as well as MeNH2. An addn. mechanism is proposed for its formation, which is accompanied by a secondary reaction in which the N is eliminated. IV with dry LiAlH4 at 120.degree. gives PhNH2 and NHMe2, this reaction can be regarded as reduction with decompn. of the N chain. p-MeC6H4N:NNMe2 (from PhNMe2 and p-MeC6H4N2X), m. 51.degree., with PhLi in Et2O forms N and m-MeC6H4CH2NHMe, characterized as the H oxalate, m. 205.degree., and as the p-toluenesulfonamide, m. 81.degree.; a mechanism is presented for this reaction.

L16 ANSWER 79 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:24279 CAPLUS

DN 50:24279

OREF 50:5008f-i

TI Some properties of esters of p-toluenesulfonic acid and 17.beta.-hydroxy sterols. III. Reaction of 17-tosylate of 5-androstene-3.beta.,17.beta.-diol and its 3-acetate with organomagnesium compounds and halogen salts of **magnesium**

AU Madaeva, O. S.

CS S. Ordzhonikidze All-Union Research Chem.-Pharm. Sci. Inst., Moscow

SO Zhurnal Obshchei Khimii (1955), 25, 1427-31

CODEN: ZOKHA4; ISSN: 0044-460X

DT Journal

LA Unavailable

AB cf. C.A. 47, 3326c. MeMgI, from 0.15 g. Mg, treated with cooling with 0.96 g. 17-tosylate of 5-androstene-3.beta.,17.beta.-diol, and refluxed 3 hrs. gave after usual aq. treatment 0.6 g. 17-iodo-5-androsten-3.beta.-ol, m. 135-5.5.degree. (from MeOH). Similar reaction with EtMgCl, completed in C6H6 at 60.degree. 4 hrs. gave a tarry product which was acetylated with Ac2O-pyridine and the product was chromatographically purified on Al2O3 in petr. ether-C6H6, yielding retroandrostadienol 3-acetate, m. 95-5.5.degree.. Reaction of 5-androstene-3.beta.,17.beta.-diol 3-acetate

17-tosylate with MeMgI similarly gave 17-iodo-5-androsten-3. β -ol 3-acetate, m. 151-2.degree.. Cholesterol and p-MeC₆H₄SO₂Cl in pyridine gave 82% cholesteryl tosylate, m. 131.degree.. This (0.1 g.) heated with 10 ml. Me₂CO and 0.1 g. LiCl in a sealed tube 9 hrs. at 92-4.degree. gave . β -cholesteryl **chloride**, m. 95.degree.. Borneol and p-MeC₆H₄SO₂Cl in pyridine gave borneol tosylate, m. 66-7.degree., which with MeMgI gave only a tarry material containing free iodine and free of S. The tosyl group in the 17-position is not replaced by the action of ZnI₂ in Et₂O, MgI₂ or alkali metal iodides in Me₂CO. Also in J. Gen. Chem. U.S.S.R. 25, 1373-6(1955) (Engl. translation).

L16 ANSWER 80 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:16132 CAPLUS

DN 50:16132

OREF 50:3300c-g

TI Reactions of the carbonamide group. III. Reaction with organometallic compounds

AU Heyns, Kurt; Pyrus, Wolfgang

CS Univ. Hamburg, Germany

SO Chemische Berichte (1955), 88, 678-83

CODEN: CHBEAM; ISSN: 0009-2940

DT Journal

LA Unavailable

AB cf. C.A. 48, 1261c. Amides, R'CONHR'' (including polypeptides), react with a 3- to 5-fold excess of RMgX or RLi, in suitable solvents and at sufficiently high temp., to produce, after hydrolysis, R'COR + H₂NR''. AcNHMe, PhNHAc (I), Et hippurate, BzNHCH₂CPh₂OH (II), Et acetate, Et N-glycylglycinate (III), H₂NCH₂CONHCH₂CPh₂OH (IV), or Me N-(N-leucylglycyl)glycinate (V) reacted thus. R in the RLi was Ph (at 36.degree.) or Et; reaction times for RLi were 1-3 hrs. R in RMgX was Ph (at 150.degree. in most cases), Me, Et, or Bu; times were 4-30 hrs. Yields of R'COR were only about 20-40%, and the reaction is therefore not practical for preparative cleavage of proteins. Caprolactam and BuMgBr at 150.degree. gave 2-butyl-.DELTA.1-hexamethylenimine 14.5% and 2,2-dibutylhexamethylenimine 6.7%, isolated as the picrolonates, m. 173.degree. and 118.degree., resp. H in -CONH- reacts with MeMgI in the Zerevitinov detn. if the detn. is performed in anisole at 120.degree.; compds. tested and moles of CH₄ evolved were: I, 1.02 and 1.00; II, 2.01 and 2.02; AcNHCH₂CPh₂OH (VI), 2.01 and 1.99; III.HCl, 3.82 and 3.84; V.HCl, 4.78 and 4.88; IV, 4.71 and 4.78; N-glycylglycine, 0.02 and 0.01; 2,4-piperazinedione, 0.01 and 0.03. EtMgBr and I, heated 1 hr., then treated with AcCl or PrCOCl, gave PhNAC₂ or PhNACCOPr, but II or VI, treated in the same way, were dehydrated to 53% BzNHCH:CPh₂, m. 131.degree., or 46% AcNHCH:CPh₂ (VII), m. 161.degree., resp. VII was prepd. also from VI and Ac₂O at 150.degree. in a sealed tube. VI, m. 138.degree., was prepd. from Et acetate and PhMgBr. .alpha.-Aminoisocaprophenone-HCl, m. 199-203.degree. (decompn.) (2,4-dinitrophenylhydrazone-HCl, m. 202.degree.), was prepd. by reaction of concd. HCl at 135.degree. in a sealed tube with N-(1-benzoyl-3-methylbutyl)benzamide (VIII), m. 107.degree.. VIII was obtained from N-benzoylleucyl **chloride** and AlCl₃ in C₆H₆. .alpha.-Aminoacetophenone 2,4-dinitrophenylhydrazone-HCl m. 221.degree..

L16 ANSWER 81 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1955:73455 CAPLUS

DN 49:73455

OREF 49:13925f-g

TI Reactions between triphenyltin **chloride** and dilithium or

diGrignard compounds

AU Zimmer, Hans; Mosle, H. G.
CS Tech. Univ. Berlin-Charlottenburg
SO Chemische Berichte (1954), 87, 1255-7
CODEN: CHBEAM; ISSN: 0009-2940
DT Journal
LA Unavailable
AB The compds. formed are of the type $(\text{Ph}_3\text{Sn})_2\text{R}$, rather than Ph_3SnRLi (or MgBr), even though an excess of the Li or Grignard may be used. Ph_3SnCl (19 g.) (in ether suspension) with an equiv. amt. of p- $\text{C}_6\text{H}_4\text{Li}_2$ soln. (from p- $\text{C}_6\text{H}_4\text{Br}_2$ and BuLi) gave 13 g. p- $\text{C}_6\text{H}_4(\text{SnPh}_3)_2$, m. 289-92.degree.. Ph_3SnCl with 4,4'-dilithiobiphenyl gave an unstated yield of 4,4'-bis(triphenyltin)biphenyl, m. 235-6.degree.. Ph_3SnCl with $(\text{BrMgCH}_2\text{CH}_2)_2$ gave $(\text{Ph}_3\text{SnCH}_2\text{CH}_2)_2$, m. 149-50.5.degree..

L16 ANSWER 82 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1954:14291 CAPLUS

DN 48:14291

OREF 48:2575c-g

TI Application of ultrasonic waves to the preparation of organometallic compounds

AU Renaud, Pierre

SO Bulletin de la Societe Chimique de France (1950) 1044-5

CODEN: BSCFAS; ISSN: 0037-8968

DT Journal

LA Unavailable

AB The effect of ultrasonic waves on the prepn. of organometallic compds. of Li, Ca, Hg, Al, Be, and Zn is studied. They do not overcome the inertia of halogens in the formation of Grignard reagents. The prepn. of organo compds. of Li under the influence of ultrasonic waves takes place rapidly in Et_2O even at 66.degree. B. act. e. but is impossible in Bu_2O . Derivs. of Ca cannot be obtained even by aid of EtMgI . Hg emulsifies immediately in Et_2O but does not react with bromides. Al affords organo-Al compds. by reaction of an organo-Mg deriv. on Al powder; the use of Al-Mg alloy is unnecessary. Organo-Zn compds. are not obtained by an analogous reaction between RMgX and Zn in the presence of Cu. Beryllium does not resemble Al in its action. The halides of Fe, Ni, and Co give condensation reactions, catalyzed by a complex such as $[\text{CoCl}_2(\text{NH}_3)_4]\text{Cl}$ but not by $[\text{CoCl}_3(\text{NH}_3)_3]$. In the production of Grignard compds. **chlorides** do not react, even with excitement by a bromide, except when Cl is mobile as in PhCH_2Cl . CHCl_3 and CCl_4 retain their inhibiting action. Generally, only aliphatic or aromatic iodides and bromides react within a few min. or more slowly if a solvent (Et_2O , Bu_2O) is used. EtBr and PhBr do not attack Mg in the absence of a solvent. MeCH:CHBr does not furnish an organo-Mg deriv. even in presence of HgCl_2 . $\text{HC.tplbond.CHCH}_2\text{Br}$ only gives such a deriv. in the presence of HgCl_2 ; the reaction is more rapid than that induced by simple heating. Mg 2-pyridyl bromide is obtained without heating but the further reaction with AcH is impossible without recourse to heat. EtMgBr , BuMgBr , and PhMgBr are obtained with the aid of ultrasonic waves in slightly aq. Et_2O or Bu_2O , contg. up to 50% of C_6H_6 , light petroleum, or even palm oil.

L16 ANSWER 83 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1941:47679 CAPLUS

DN 35:47679

OREF 35:7368a-f

TI Factors determining the course and mechanisms of **Grignard reactions**. IV. The effect of metallic halides on the reaction of al Grignard reagents and organic halides

AU Kharasch, M. S.; Fields, E. K.
 SO Journal of the American Chemical Society (1941), 63, 2316-20
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA Unavailable
 AB Co does not react with PhBr at 40.degree. after 1 hr. PhMgBr (I) gives 6-8% of Ph₂ (II). I (0.14 mole) and 9 mol.% of CoCl₂ (III) give 27% II; in the following the figure before the metal halide is mol.%; 0.54 mole I, 0.4 mole PhBr (IV) and 7 III give 83% II; 0.113 mole I, 0.1 mole IV and 2.5 III give 86% II. IV takes part in this reaction, as can be demonstrated by a halogen titration of the aq. soln. obtained by hydrolysis of the reaction mixt. after the reaction has ceased and by the fact that only a portion of IV can be recovered; thus, IV acts as an oxidizing agent in converting I into II. The II is formed exclusively from I because IV can be replaced by p-BrC₆H₄Me (with 9 III 86% II), EtBr (with 7 III 81% II) or iso-PrCl (with 5 III 58% II). The org. radical of IV is responsible for the formation of higher-boiling compds.; thus, 0.54 mole I, 0.4 mole II and 7 III in ether (heated 2 hrs.) give 18 g. C₆H₆, 34.5 g. Ph₂, 1.7 g. terphenyl, 0.8 g. quaterphenyl and 17.5 g. very high-boiling material; such compds. are not found with aliphatic halides. PhCl (4 III) gives only 37% II. PhMgI and 28 III in ether-C₆H₆ at 0.degree. for 3 hrs. give 64% II; with 0.1 mole IV, 4 III gives 86% II. With I and IV other metal halides give the following results: 9 CuCl 6% II, 4 MnCl₂ 21% II, 5 FeCl₃ 47% II, 4 NiCl₂ 72% II, 4 CrCl₃ 7% II. Other reactions were also studied; thus, p-MeC₆H₄MgBr and IV with 10 III give 95% (p-MeC₆H₄)₂; o-MeC₆H₄MgBr and EtBr with 7 III give 75% of (o-MeC₆H₄)₂; p-MeOC₆H₄MgBr and EtBr with 5 III give 76% of (p-MeOC₆H₄)₂; o-EtOC₆H₄MgBr and EtBr with 5 III give 74% of (o-EtOC₆H₄)₂. It is believed that these reactions proceed through the agency of a Co subhalide, the active chain carrier; suggested reactions are: I + III .fwdarw. PhCoCl + MgBrCl; 2PhCoCl .fwdarw. Ph₂ + 2CoCl; CoCl + PhBr .fwdarw. CoClBr + Ph-; x(Ph-) .fwdarw. C₆H₆, Ph₂, C₆H₄Ph₂, (6H₄Ph)₂, etc. These equations are used to explain the results obtained in part III. The data point to a definite relation between the electronegativity of the org. radical, the stability of the intermediate organometallic compd. and the rate of the normal addn.

L16 ANSWER 84 OF 84 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1939:41261 CAPLUS

DN 33:41261

OREF 33:5804f-h

TI Synthesis of primary amines by the reaction of .alpha.-methylhydroxylamine with organomagnesium and organolithium compounds

AU Sheverdina, N. I.; Kocheshkov, K. A.

SO Zhurnal Obshchei Khimii (1938), 8, 1825-30

CODEN: ZOKHA4; ISSN: 0044-460X

DT Journal

LA Unavailable

AB RMgX and RLi in ether soln. at a temp. of -10.degree. to -15.degree. react readily with MeONH₂ (I) to give primary amines. The yield depends on the nature of X, decreasing sharply from Cl to I, and is practically independent of the nature of R. The following compds. were reacted with I: EtMgBr, iso-AmMgCl, iso-AmMgBr, iso-AmMgI, sec-BuMgCl, tert-BuMgCl, PhMgCl, PhMgI, p-BrC₆H₄MgBr and PhLi. The yields of RNH₂ were resp. 66.6, 80.1, 71.4, 5.3, 73.4, 73.6, 65.0, 0.23, 72.5 and 63.0%.

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(FILE 'HOME' ENTERED AT 16:14:11 ON 24 SEP 2003)

FILE 'REGISTRY' ENTERED AT 16:14:32 ON 24 SEP 2003

L1 STRUCTURE UPLOADED
L2 210 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 16:15:16 ON 24 SEP 2003

L3 309 S L2
L4 0 S L3 AND SYN THESIS AND PREPARATION
L5 48 S L3 AND SYNTHESIS
L6 3 S L5 AND LITHIUM
L7 2 S L5 AND MAGNESIUM
L8 194 S GRIGNARD REACTION AND LITHIUM AND MAGNESIUM
L9 70 S L8 AND PHENYL
L10 30 S L8 AND PHENYL AND CHLORIDE
L11 10 S L8 AND PYRIDINE
L12 1 S L8 AND PYRIMIDINE
L13 0 S L8 AND PYRIDAZINE
L14 2 S L8 AND FURAN
L15 1 S L8 AND THIEN
L16 84 S L8 AND CHLORIDE
L17 0 S L16 AND PHENYL AND PYRIDINE AND FURAN AND THIEN AND PYRIMIDIN
L18 0 S L8 AND PYRIDINE AND CHLIRIDE
L19 1 S L8 AND PYRIMIDINE AND CHLORIDE
L20 1 S L8 AND FURAN AND CHLORIDE
L21 1 S L8 AND THIEN AND CHLORIDE

=> d 118 fbib hitstr abs total

L18 HAS NO ANSWERS

L8 194 SEA FILE=CAPLUS PLU=ON GRIGNARD REACTION AND LITHIUM AND
MAGNESIUM

L18 0 SEA FILE=CAPLUS PLU=ON L8 AND PYRIDINE AND CHLIRIDE

=> d 19 fbib hitstr abs total

L9 ANSWER 1 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:882089 CAPLUS

DN 137:384754

TI Preparation of exo-biperidens via the coupling of exo-silylenolethers with
N-methylenepiperidinium salts

IN Grosse, Markus; Klein, Peter; Thyges, Marco; Weber, Klaus Martin;
Vilsmaier, Elmar

PA Abbott GmbH & Co. KG, Germany

SO Ger. Offen., 12 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10124453	A1	20021121	DE 2001-10124453	20010518
	WO 2002096874	A2	20021205	WO 2002-EP5497	20020517
	WO 2002096874	A3	20030130		

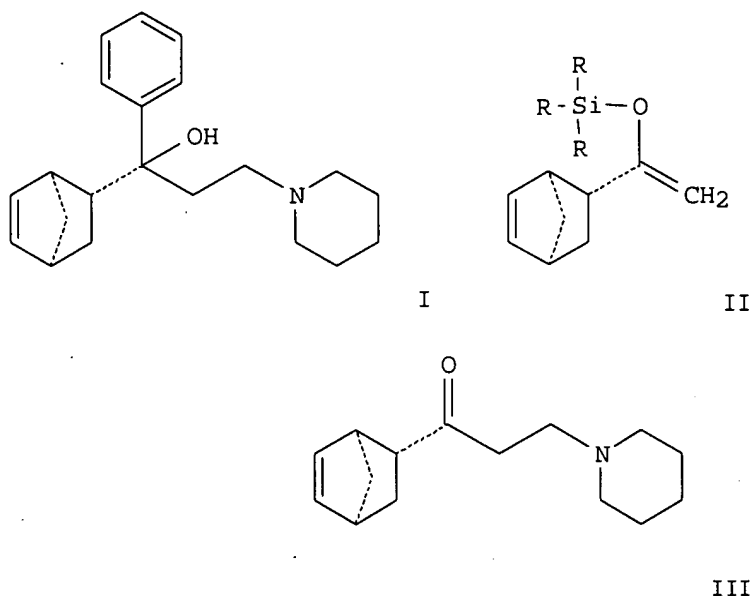
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GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,

PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 2001-10124453A 20010518

OS CASREACT 137:384754; MARPAT 137:384754
GI



AB A process for the prepn. of exo-biperidens I via the coupling of exo-silylenolethers II [R = alkyl, cycloalkyl] with N-methylenepiperidinium salts is disclosed. For example, coupling of exo-silylenolether II (R = Me), e.g., prepd. from cyclopentadiene and 3-buten-2-one in 2-steps, and N-methylenepiperidinium chloride, followed by the addn. of chlorophenylmagnesium afforded a diastereomeric mixt. of exo-biperidens I. A key step of the process is the NaOMe mediated isomerization of endo-1-(bicyclo[2.2.1]hept-5-en-2-yl)ethan-2-one to the exo isomer.

L9 ANSWER 2 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:811200 CAPLUS

DN 132:35338

TI Process and catalysts for the symmetric disubstitution of carboxylic acid amides into substituted amines using Grignard reagents or organolithium compounds

IN Buchholz, Herwig; Welz-Biermann, Urs; De Meijere, Armin

PA Merck Patent GmbH, Germany

SO PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9965862	A1	19991223	WO 1999-EP4254	19990618
	W: JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19827161	A1	19991223	DE 1998-19827161A	19980618
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				EP 1999-932702	19990618
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, FI				
				DE 1998-19827161A	19980618
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				DE 1998-19827164A	19980618
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				DE 1998-19827166A	19980618
				DE 1998-19827167A	19980618
				DE 1998-19844194A	19980926
				WO 1999-EP4254 W	19990618
	JP 2002518365	T2	20020625	JP 2000-554689	19990618
				DE 1998-19827161A	19980618
				WO 1999-EP4254 W	19990618
	JP 2003524588	T2	20030819	JP 2000-554208	19990618
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				DE 1998-19827165A	19980618
				DE 1998-19827166A	19980618
				DE 1998-19827167A	19980618
				DE 1998-19844194A	19980926
				WO 1999-EP4256 W	19990618
	US 6515180	B1	20030204	US 2001-719815	20010307
				DE 1998-19827161A	19980618
				WO 1999-EP4254 W	19990618

PATENT FAMILY INFORMATION:

FAN 1999:811195

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9965857	A1	19991223	WO 1999-EP4249	19990618
	W: JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19827165	A1	19991223	DE 1998-19827165A	19980618
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				EP 1999-932701	19990618
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, FI				
				DE 1998-19827165A	19980618
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	JP 2002518360	T2	20020625	JP 2000-554684	19990618
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	JP 2003524588	T2	20030819	JP 2000-554208	19990618
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				DE 1998-19827164A 19980618
				DE 1998-19827165A 19980618
				DE 1998-19827166A 19980618
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				DE 1998-19844194A 19980926
				WO 1999-EP4256 W 19990618
FAN	1999:811196			
	PATENT NO.	KIND	DATE	APPLICATION NO. DATE
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PI	WO 9965858	A1	19991223	WO 1999-EP4250 19990618
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	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,			
	PT, SE			
				DE 1998-19827163A 19980618
	DE 19827163	A1	19991223	DE 1998-19827163 19980618
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	US 6512145	B1	20030128	US 2001-719823 20010223
				DE 1998-19827163A 19980618
				WO 1999-EP4250 W 19990618
	US 2003125549	A1	20030703	US 2002-322570 20021219
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FAN	1999:811197			
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PI	WO 9965859	A1	19991223	WO 1999-EP4251 19990618
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	PT, SE			
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	DE 19827164	A1	19991223	DE 1998-19827164 19980618
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	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, FI			
				DE 1998-19827164A 19980618
				WO 1999-EP4251 W 19990618
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				WO 1999-EP4251 W 19990618
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				DE 1998-19827161A 19980618
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US 6420302	B1	20020716		US 2001-719810 20010420
				DE 1998-19827164A 19980618
US 2003009029	A1	20030109		WO 1999-EP4251 W 19990618
				US 2002-162257 20020605
				DE 1998-19827164A 19980618
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FAN 1999:811198				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 9965860	A1	19991223	WO 1999-EP4252	19990618
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19827166	A1	19991223	DE 1998-19827166A 19980618	
EP 1087930	A1	20010404	DE 1998-19827166 19980618	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, FI			EP 1999-931108 19990618	
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			WO 1999-EP4252 W 19990618	
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			DE 1998-19827166A 19980618	
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FAN 1999:811199				
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PI WO 9965861	A1	19991223	WO 1999-EP4253	19990618
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			DE 1998-19844194A 19980926	
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			EP 1999-931109 19990618	
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			DE 1998-19844194A 19980926	
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			JP 2000-554688 19990618	
			DE 1998-19827167A 19980618	

JP 2003524588	T2	20030819	DE 1998-19844194A 19980926 WO 1999-EP4253 W 19990618 JP 2000-554208 19990618 DE 1998-19827161A 19980618 DE 1998-19827163A 19980618 DE 1998-19827164A 19980618 DE 1998-19827165A 19980618 DE 1998-19827166A 19980618 DE 1998-19827167A 19980618 DE 1998-19844194A 19980926 WO 1999-EP4256 W 19990618 US 2001-719971 20010323 DE 1998-19827167A 19980618 DE 1998-19844194A 19980926 WO 1999-EP4253 W 19990618
US 6479661	B1	20021112	
FAN 1999:811201			
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PI WO 9965863	A1	19991223	WO 1999-EP4257 19990618
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DE 19827161	A1	19991223	
DE 19827163	A1	19991223	
DE 19827164	A1	19991223	
DE 19827165	A1	19991223	
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DE 19844194	A1	19991223	
WO 9965855	A2	19991223	
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			DE 1998-19827167A 19980618
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			JP 2000-554690 19990618
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			DE 1998-19827166A 19980618
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			DE 1998-19844194A 19980926
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			DE 1998-19827167A 19980618
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US 2003009029	A1	20030109	WO 1999-EP4256 W 19990618
			US 2002-162257 20020605
			DE 1998-19827164A 19980618
			US 2001-719810 A320010420

FAN	1999:811202			
	PATENT NO.	KIND	DATE	APPLICATION NO. DATE
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PI	WO 9965864	A2	19991223	WO 1999-EP4258 19990618
	WO 9965864	A3	20030522	
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	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE			

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DE 19827163	A1	19991223	DE 1998-19827163A 19980618
DE 19827164	A1	19991223	DE 1998-19827164A 19980618
DE 19827165	A1	19991223	DE 1998-19827165A 19980618
DE 19827166	A1	19991223	DE 1998-19827166A 19980618
DE 19844194	A1	19991223	DE 1998-19827167A 19980618
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			DE 1998-19827164 19980618
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WO 9965855	A2	19991223	WO 1999-EP4255 19990618
	W: JP, KR, US		
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WO 1999-EP4256 19990618

WO 9965318 A2 19991223
WO 9965318 A3 20030417
W: JP, KR, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE

JP 2003524588 T2 20030819

DE 1998-19827161A 19980618
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JP 2000-554208 19990618
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DE 1998-19827164A 19980618
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DE 1998-19844194A 19980926
WO 1999-EP4256 W 19990618
US 2002-162257 20020605
DE 1998-19827164A 19980618
US 2001-719810 A320010420

US 2003009029 A1 20030109

OS CASREACT 132:35338; MARPAT 132:35338
AB Amides (e.g., diethylformamide) are sym. disubstituted on the geminal carbonyl-C atom of the amide using organolithium compds. or Grignard reagents (e.g., phenylmagnesium bromide) to give substituted amines [e.g., (diphenylmethyl)diethylamine], which reaction is conducted in the presence of a metal alcoholate (e.g., titanium tetraisopropoxide) catalyst and optional organosilane (e.g., tert-butyldimethyl trichloride) cocatalyst.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:811196 CAPLUS
DN 132:35335
TI Method and catalysts for the disubstitution of carboxylic acid amides with two different organolithium or Grignard reagents in the preparation of substituted amines
IN Buchholz, Herwig; Welz-Biermann, Urs
PA Merck Patent G.m.b.H., Germany
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 8

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9965858	A1	19991223	WO 1999-EP4250	19990618
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, FI			EP 1999-929279 19990618
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			DE 1998-19827163A 19980618
JP 2003524588	T2	20030819	WO 1999-EP4250 W 19990618
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US 6512145	B1	20030128	WO 1999-EP4256 W 19990618
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			WO 1999-EP4250 W 19990618
			US 2001-719823 A320010223

PATENT FAMILY INFORMATION:

FAN 1999:811195

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			JP 2000-554684 19990618
			DE 1998-19827165A 19980618
JP 2003524588	T2	20030819	WO 1999-EP4249 W 19990618
			JP 2000-554208 19990618
			DE 1998-19827161A 19980618
			DE 1998-19827163A 19980618
			DE 1998-19827164A 19980618
			DE 1998-19827165A 19980618
			DE 1998-19827166A 19980618
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			DE 1998-19844194A 19980926
			WO 1999-EP4256 W 19990618

FAN 1999:811197

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9965859	A1	19991223	WO 1999-EP4251	19990618
	W: JP, KR, US				

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE

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			DE 1998-19827164A 19980618
JP 2002518362	T2	20020625	WO 1999-EP4251 W 19990618
			JP 2000-554686 19990618
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US 2003009029	A1	20030109	DE 1998-19827164A 19980618
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FAN 1999:811198

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PI

WO 9965860

A1

19991223

WO 1999-EP4252

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EP 1087930

A1

20010404

EP 1999-931108 19990618

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DE 1998-19827166A 19980618

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WO 1999-EP4252 W 19990618

JP 2003524588

T2

20030819

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FAN 1999:811199

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APPLICATION NO.

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WO 9965318 A3 20030417 WO 1999-EP4256 19990618
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JP 2003524588 T2 20030819 JP 2000-554208 19990618
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DE 1998-19844194A 19980926
WO 1999-EP4256 W 19990618
US 2003009029 A1 20030109 US 2002-162257 20020605
DE 1998-19827164A 19980618
US 2001-719810 A320010420

OS CASREACT 132:35335; MARPAT 132:35335

AB Amides (e.g., N-formylmorpholine) are disubstituted on the geminal carbonyl-C atom of the amide using two different Grignard reagents (e.g., phenylmagnesium bromide and methylmagnesium bromide) to give substituted amines [e.g., 1-[(1-**phenyl**)ethyl]morpholine], which reaction is conducted in the presence of a metal alcoholate (e.g., tetraisopropoxytitanium) catalyst optionally with an organosilane (e.g., chlorotrimethylsilane) cocatalyst.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:811195 CAPLUS

DN 132:35334

TI Catalytic titanium(IV) dioxide-induced geminal asymmetric disubstitution of carboxylic acid amides with organolithium or Grignard reagents for the preparation of substituted amines

IN Buchholz, Herwig; Welz-Biermann, Urs

PA Merck Patent GmbH, Germany

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 8

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PI	WO 9965857	A1	19991223	WO 1999-EP4249	19990618
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				EP 1999-932701 19990618	

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JP 2002518360 T2 20020625

JP 2003524588 T2 20030819

DE 1998-19827165A 19980618
 WO 1999-EP4249 W 19990618
 JP 2000-554684 19990618
 DE 1998-19827165A 19980618
 WO 1999-EP4249 W 19990618
 JP 2000-554208 19990618
 DE 1998-19827161A 19980618
 DE 1998-19827163A 19980618
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 WO 1999-EP4256 W 19990618

PATENT FAMILY INFORMATION:

FAN 1999:811196

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WO 9965858	A1	19991223	WO 1999-EP4250	19990618
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
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US 6512145	B1	20030128	US 2001-719823	20010223
US 2003125549	A1	20030703	US 2002-322570	20021219

FAN 1999:811197

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WO 9965859	A1	19991223	WO 1999-EP4251	19990618
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EP 1087928	A1	20010404	EP 1999-929280	19990618

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JP 2002518362	T2	20020625		WO 1999-EP4251 W 19990618
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FAN	1999:811199			
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DE 19844194			DE 1998-19844194A 19980926
WO 1999-EP4257			WO 1999-EP4257 W 19990618

JP 2002518366	T2	20020625	JP 2000-554690	19990618
			DE 1998-19827161A	19980618
			DE 1998-19827163A	19980618
			DE 1998-19827164A	19980618
			DE 1998-19827165A	19980618
			DE 1998-19827166A	19980618
			DE 1998-19827167A	19980618
			DE 1998-19844194A	19980926
			WO 1999-EP4257 W	19990618
JP 2003524588	T2	20030819	JP 2000-554208	19990618
			DE 1998-19827161A	19980618
			DE 1998-19827163A	19980618
			DE 1998-19827164A	19980618
			DE 1998-19827165A	19980618
			DE 1998-19827166A	19980618
			DE 1998-19827167A	19980618
			DE 1998-19844194A	19980926
			WO 1999-EP4256 W	19990618
US 2003009029	A1	20030109	US 2002-162257	20020605
			DE 1998-19827164A	19980618
			US 2001-719810 A3	20010420
FAN 1999:811202				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 9965864	A2	19991223	WO 1999-EP4258	19990618
WO 9965864	A3	20030522		
W: JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
			DE 1998-19827161A	19980618
			DE 1998-19827163A	19980618
			DE 1998-19827164A	19980618
			DE 1998-19827165A	19980618
			DE 1998-19827166A	19980618
			DE 1998-19827167A	19980618
			DE 1998-19844194A	19980926
DE 19827161	A1	19991223	DE 1998-19827161	19980618
DE 19827163	A1	19991223	DE 1998-19827163	19980618
DE 19827164	A1	19991223	DE 1998-19827164	19980618
DE 19827165	A1	19991223	DE 1998-19827165	19980618
DE 19827166	A1	19991223	DE 1998-19827166	19980618
DE 19844194	A1	19991223	DE 1998-19844194	19980926
			DE 1998-19827167A	19980618
WO 9965855	A2	19991223	WO 1999-EP4255	19990618
W: JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
			DE 1998-19827161A	19980618
			DE 1998-19827163A	19980618
			DE 1998-19827164A	19980618
			DE 1998-19827165A	19980618
			DE 1998-19827166A	19980618
			DE 1998-19827167A	19980618
			DE 1998-19844194A	19980926
WO 9965318	A2	19991223	WO 1999-EP4256	19990618
WO 9965318	A3	20030417		
W: JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				

PT, SE

JP 2003524588 T2 20030819

US 2003009029 A1 20030109

DE 1998-19827161A 19980618
DE 1998-19827163A 19980618
DE 1998-19827164A 19980618
DE 1998-19827165A 19980618
DE 1998-19827166A 19980618
DE 1998-19827167A 19980618
DE 1998-19844194A 19980926
JP 2000-554208 19990618
DE 1998-19827161A 19980618
DE 1998-19827163A 19980618
DE 1998-19827164A 19980618
DE 1998-19827165A 19980618
DE 1998-19827166A 19980618
DE 1998-19827167A 19980618
DE 1998-19844194A 19980926
WO 1999-EP4256 W 19990618
US 2002-162257 20020605
DE 1998-19827164A 19980618
US 2001-719810 A320010420

OS CASREACT 132:35334; MARPAT 132:35334

AB Amides (e.g., N-formylpiperidine) are disubstituted on the geminal carbonyl-C atom of the amide using two different Grignard reagents (e.g., phenylmagnesium bromide and ethylmagnesium bromide) to give substituted amines [e.g., 1-[(1-**phenyl**)propyl]piperidine], which reaction is conducted in the presence of a titanium dioxide catalyst and a metal alcoholate or organosilane (e.g., chlorotrimethylsilane) cocatalyst.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:796156 CAPLUS

DN 132:151849

TI Grignard reagent formation from aryl halides. There is no aryl radical intermediate along the dominant reaction channel

AU Garst, J. F.; Ronald Boone, J.; Webb, L.; Easton Lawrence, K.; Baxter, J. T.; Ungvary, F.

CS Department of Chemistry, The University of Georgia, Athens, GA, USA

SO Inorganica Chimica Acta (1999), 296(1), 52-66

CODEN: ICHAA3; ISSN: 0020-1693

PB Elsevier Science S.A.

DT Journal

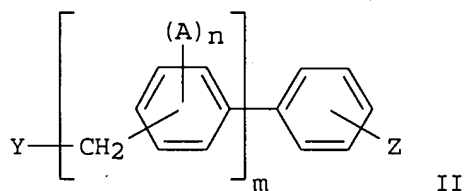
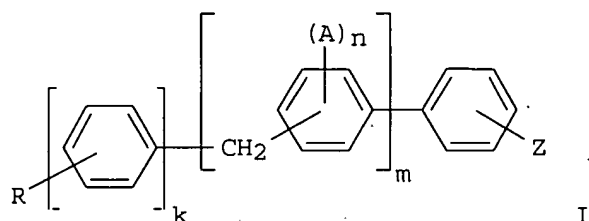
LA English

AB For Grignard reagent formation from Mg and an aliph. halide RX in an ether solvent, a route through R.bul. is the major pathway. Part of the evidence is that byproducts of side reactions of R.bul. are formed in substantial yields. Similar reactions of Ph and o-(3-butenyl) **phenyl** halides give very low (sometimes trace) yields of byproducts derived from side reactions of R.bul., despite the fact that aryl R.bul. are much more reactive than alkyl in both solvent attack and cyclization [o-(3-butenyl) **phenyl** case]. **Grignard reactions** of aryl halides appear to proceed largely through a pathway along which R.bul. is not an intermediate. This is probably a dianion pathway, i.e., one along which RX₂⁻ is an intermediate or transition state.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1999:407058 CAPLUS
 DN 131:58656
 TI Preparation of biphenyls having active substituents such as cyano group
 IN Takahashi, Junya; Tsurushima, Masaaki
 PA Mikuni Pharma Ind., Japan
 SO Jpn. Kokai Tokkyo Koho, 9. pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11171799	A2	19990629	JP 1997-356313	19971208
				JP 1997-356313	19971208
OS	CASREACT 131:58656; MARPAT 131:58656				
GI					



AB Title compds. I [R = aryl, (aryl-contg.) hydrocarbyl; Z = active substituents; A = halo; k, m = 0, 1; k + m = 1; n = 0-2] are prepd. by reaction of R(C6H4)kMgX (R, k = same as I; ; X = halo) with aryl compds. II (Z, A, n, m = same as I; Y = leaving group) in the presence of Cu salts. 4'-Bromomethylbiphenyl-4-carbonitrile was condensed with BuMgCl in the presence of Li2CuCl4 in THF at room temp. overnight to give 89.5% 4'-pentylbiphenyl-4-carbonitrile with 98.9% purity.

L9 ANSWER 7 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1999:373858 CAPLUS
 DN 131:144631
 TI Preparation of heteroarylboron compounds
 AU Huang, Shi-Wen; Shan, Zi-Xing; Huang, Jin-Kun; Zhao, De-Jie
 CS College of Chemistry, Wuhan University, Wuhan, 430072, Peop. Rep. China
 SO Wuhan Daxue Xuebao, Ziran Kexueban (1999), 45(2), 160-164
 CODEN: WTHPDI; ISSN: 0253-9888
 PB Wuhan Daxue Xuebao Bianjibu
 DT Journal
 LA Chinese

AB 2-Thienyl boronic acid, di(2-thienyl)borinic acid, tri(2-thienyl)borane and their derivs. were prep'd. by one-pot reaction between 2-bromothiophene, **magnesium** and boron trifluoride etherate or tri-Bu borate at room temp. 5-Methyl-2-furanyl and 2-benzofuranyl boron compds. were obtained from the corresponding **lithium** reagents reacting with boron trifluoride etherate or tri-Bu borate at lower temp.

L9 ANSWER 8 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:311426 CAPLUS

DN 130:338554

TI Preparation of substituted poly(arylenvinylenes) for use in electroluminescence

IN Spreitzer, Hubert; Kreuder, Willi; Becker, Heinrich; Schenk, Hermann; Yu, Nu

PA Hoechst A.-G., Germany

SO Ger. Offen., 28 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

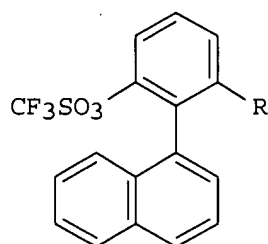
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19748814	A1	19990506	DE 1997-19748814	19971105
	CA 2308573	AA	19990520	CA 1998-2308573	19981022
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
	WO 9924526	A1	19990520	WO 1998-EP6722	19981022
	W: CA, CN, JP, KR, MX, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
				DE 1997-19748814A	19971105
	EP 1029019	A1	20000823	EP 1998-952737	19981022
	R: AT, CH, DE, FR, GB, IT, LI, NL				
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
	JP 2001522926	T2	20011120	JP 2000-520525	19981022
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
	US 2002064680	A1	20020530	US 2000-530890	20000822
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
	US 2003088050	A1	20030508	US 2002-185061	20020628
				DE 1997-19748814A	19971105
				WO 1998-EP6722 W	19981022
				US 2000-530890 B1	20000822

AB Poly(arylenevinylenes) bearing aryl substituents of specified structure, useful in electroluminescent lighting and displays, are prep'd. Coupling di-Me bromoterephthalate with [3-[(3,7-dimethyloctyl)oxy]**phenyl**]boronic acid gave 98% di-Me 2-[3-[(3,7-dimethyloctyl)oxy]**phenyl**]terephthalate, redn. of which with LiAlH₄ gave 82% corresponding bishydroxymethyl deriv., treatment of which with SOCl₂ gave 70% 2,5-bis(chloromethyl)-3'-[(3,7-dimethyloctyl)oxy]biphenyl (I). Polymn. of 4.00 mmol each I and 2,5-bis(chloromethyl)-3'-[(3,7-dimethyloctyl)oxy]-4-methoxybiphenyl in dioxane contg. tert-BuOK at 99.degree. gave 44% copolymer with wt.-av. mol. wt. 1,350,000. Use of the products in LED's is exemplified.

L9 ANSWER 9 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

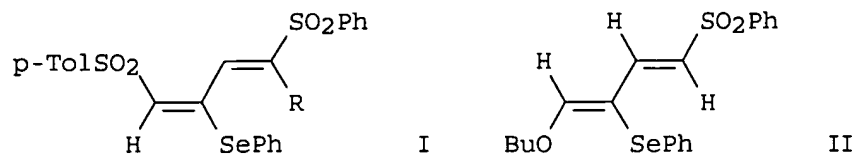
AN 1996:739997 CAPLUS
 DN 126:18658
 TI Preparation of optically active biaryl compounds from 1-[2,6-(bistrifluoromethanesulfonyloxy)phenyl]naphthalene and Grignard reagents
 IN Hayashi, Tamio
 PA Sumitomo Chemical Co, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08245551	A2	19960924	JP 1995-51091	19950310
				JP 1995-51091	19950310
OS	CASREACT 126:18658; MARPAT 126:18658				
GI					



AB Optically active biaryl compds. I (R = alkyl, alkenyl, aryl, aralkyl) are prepd. by treatment of I (R = CF₃SO₃) with RMgX (R = same as above; X = halo) in the presence of optically active metal complex catalysts prepd. from transition metal compds. and optically active R₂R₃NCHR₁CH₂PR₄₂ [R₁-R₃ = lower alkyl, aryl, aralkyl; R₄ = (cyclo)alkyl, alkoxy, (halo-substituted) Ph; NR₂R₃ may form ring]. I (R = CF₃SO₃) was treated with PhMgBr, LiBr, and (S)-PhCH₂CH(NMe₂)CH₂PPh₂-Pd complex at 0.degree. for 48 h to give 74% (S)-I (R = Ph) (84% e.e).

L9 ANSWER 10 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1996:376669 CAPLUS
 DN 125:168189
 TI A regioselective addition reaction of a sulfonyl radical to conjugate enynesulfones: a convenient synthesis of 1,4-bis(arylsulfonyl)-1,3-butadiene
 AU Yoshimatsu, Mitsuhiro; Hayashi, Mitsumasa; Tanabe, Genzoh; Muraoka, Osamu
 CS Dep. Chem., Fac. Educ., Gifu Univ., Gifu, 501-11, Japan
 SO Tetrahedron Letters (1996), 37(24), 4161-4164
 CODEN: TELEAY; ISSN: 0040-4039
 PB Elsevier
 DT Journal
 LA English
 OS CASREACT 125:168189
 GI



AB P-MeC₆H₄SO₂SePh regioselectively added to conjugate enynesulfones, e.g. (E)-HC.tplbond.CCH:CBRSO₂Ph to give (1E,3E)-1,4-bis(arylsulfonyl)-1,3-butadienes, e.g. I (R = Br), which were converted to 4-heteroatom-substituted-1-phenylsulfonyl-1,3-butadienes, e.g. II. The stereochem. of PhCH₂NHCH:C(SePh)CH:CH(SO₂Ph), the PhCH₂NH₂ reaction product with I (R = H), was detd. by x-ray crystallog.

L9 ANSWER 11 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:264957 CAPLUS

DN 124:317470

TI Process for preparing silacyclohexane-based liquid crystal compounds

IN Kinsho, Takeshi; Shimizu, Takaaki; Ogihara, Tsutomu; Kaneko, Tatsushi; Nakashima, Mutsuo

PA Shin-Etsu Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DT Patent

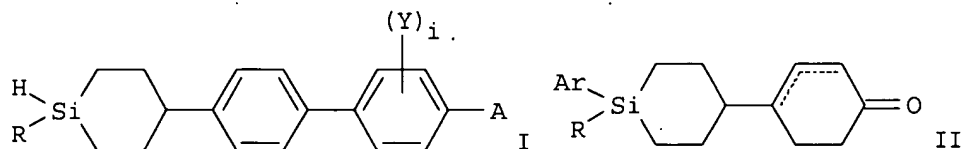
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 696591	A1	19960214	EP 1995-304845	19950711
	EP 696591	B1	20010314		
	R: DE, GB				
	JP 08081474	A2	19960326	JP 1994-182903 A	19940712
				JP 1995-198006	19950711
				JP 1994-182903 A	19940712
	US 5514824	A	19960507	US 1995-501522	19950712
				JP 1994-182903 A	19940712
	EP 765880	A1	19970402	EP 1995-115429	19950929
	R: DE, GB				
				JP 1994-182903	19940712

OS CASREACT 124:317470; MARPAT 124:317470

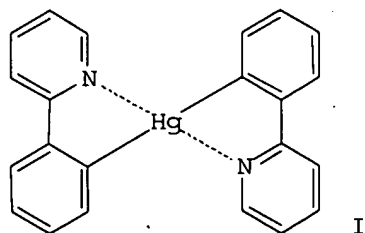
GI



AB A process for prepg. compds. I (R, Y, A = org. residues; i = 0-3) via reacting a ketone compd. II (Ar = org. residue) with an organometallic reagent and subsequently dehydrating, oxidizing, and Ar removal to give I is described. Thus, **Grignard reaction** of 4-(4-pentyl-4-phenyl-4-silacyclohexyl)-3-cyclohexenone with trans-(4-propylcyclohexyl)phenylmagnesium chloride in THF followed by

p-toluenesulfonic acid-mediated dehydration and subsequent p-chloranil oxidative dehydrogenation gave 4-(4-pentyl-4-phenyl-4-silacyclohexyl)-4'-(trans-4-propylcyclohexyl)biphenyl (III). Chlorination of III with BrCl in CCl₄ followed by LiAlH₄ redn. in THF gave title compd., trans,trans-4-(4-pentyl-4-silacyclohexyl)-4'-(4-propylcyclohexyl)biphenyl. I are useful in liq. crystal displays.

- L9 ANSWER 12 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:509812 CAPLUS
DN 121:109812
TI Synthesis, absorption characteristics and some reactions of polygermanes
AU Mochida, Kunio; Chiba, Hiromi
CS Department of Chemistry, Faculty of Science, Gakushuin University, 1-5-1 Mejiro, Toshima-ku, Tokyo, 171, Japan
SO Journal of Organometallic Chemistry (1994), 473(1-2), 45-54
CODEN: JORCAI; ISSN: 0022-328X
DT Journal
LA English
AB A no. of high mol. wt. polygermanes were prepd. by an improvement on Wurtz coupling reactions of dichlorogermanes and Na metal, and by a method using GeI₂ and Grignard reagents (or organolithiums). Most of the polygermanes thus prepd. showed a narrow mol. distribution with mol. wts. 103-104. In soln., the polygermanes showed characteristic electronic absorption bands at 300-350 nm and were strongly thermochromic for alkyl-substituted derivs. Photolysis of the polygermanes proceeded by both contraction of the chain with loss of diorganogermynes and homolytic scission of the Ge-Ge bond.
- L9 ANSWER 13 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1994:107204 CAPLUS
DN 120:107204
TI Organomercury compounds. XXXI. Preparations and 199Hg NMR spectra of organomercury derivatives of 2-phenylpyridine, benzo[h]quinoline, 1-phenylpyrazole and 3,4,5-trimethyl-1-phenylpyrazole, and the x-ray crystal structure of bis[2-(pyridin-2'-yl)phenyl]mercury
AU Black, David St. C.; Deacon, Glen B.; Edwards, Gavin L.; Gatehouse, Bryan M.
CS Sch. Chem., Univ. New South Wales, Kensington, 2033, Australia
SO Australian Journal of Chemistry (1993), 46(9), 1323-36
CODEN: AJCHAS; ISSN: 0004-9425
DT Journal
LA English
OS CASREACT 120:107204
GI



AB 2-(Pyridin-2'-yl)phenylmercuric acetate has been prep'd. by mercuration of 2-phenylpyridine. Symmetrization of the corresponding chloride by alk. sodium stannite gave bis[2-(pyridin-2'-yl)**phenyl**]mercury (I), which was also prep'd. from 2-(2'-aminophenyl)pyridine by the diazo method and treatment of the initial product with copper powder and aq. ammonia. Mercuration of benzo[h]quinoline and 3,4,5-trimethyl-1-phenylpyrazole with mercuric acetate followed by treatment with **lithium** chloride yielded benzo[h]quinolin-10-ylmercuric chloride and 2-(3',4',5'-trimethylpyrazol-1'-yl)phenylmercuric chloride, resp. Treatment of the former product with tribromide ions gave 10-bromobenzo[h]quinoline. The exchange **Grignard reaction** between 1-phenylpyrazole and ethylmagnesium bromide to give 2-(pyrazol-1'-yl)phenylmagnesium bromide has been monitored by reactions with benzonitrile and D2O to establish optimum conditions for reaction with mercuric bromide giving bis[2-(pyrazol-1'-yl)**phenyl**]mercury. The 199Hg NMR chem. shifts of the majority of mercurials are shifted substantially downfield relative to the corresponding simple phenylmercurials consistent with weak intramol. coordination by the heterocyclic nitrogen donor atoms, but a small upfield shift is obsd. for bis[2-(pyrazol-1'-yl)**phenyl**]mercury. The x-ray crystal structure of I shows a centrosym. mol. with strong linear two coordination [Hg-C 2.098(8).ANG.; C-Hg-C 180.0.degree.] and significant but much weaker Hg-N interactions [Hg-N 2.798(7).ANG.; N-Hg-N 180.0.degree.] giving overall distorted square planar stereochem. The Ph rings are mutually coplanar, while the two pyridin-2'-yl rings are parallel and inclined at 10.8.degree. to the Ph groups.

L9 ANSWER 14 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1992:612725 CAPLUS

DN 117:212725

TI Process for the preparation of protected phosphine oxides from phosphinate esters and organomagnesium halides or organolithium compounds

IN Hall, Roger Graham; Riebli, Peter

PA Ciba-Geigy A.-G., Switz.

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

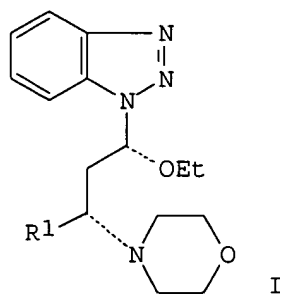
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 501702	A2	19920902	EP 1992-301489	19920221
	EP 501702	A3	19931208		
	R: DE, FR, GB, IT				
	CA 2061770	AA	19920828	GB 1991-4050	19910227
				CA 1992-2061770	19920225
				GB 1991-4050	19910227
	JP 05086082	A2	19930406	JP 1992-76166	19920227
				GB 1991-4050	19910227
	US 5298663	A	19940329	US 1993-35524	19930323
				GB 1991-4050	19910227
				US 1992-840353	19920224
	US 5414133	A	19950509	US 1994-179403	19940110
				GB 1991-4050	19910227
				US 1992-840353	19920224
				US 1993-35524	19930323

OS CASREACT 117:212725; MARPAT 117:212725

AB Protected phosphine oxides were prep'd. by reaction of protected

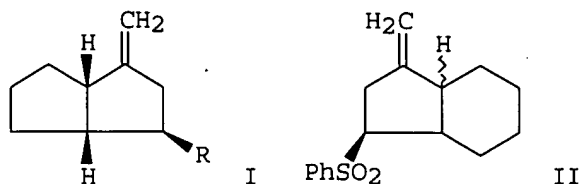
phosphinate esters with organomagnesium halides or organolithiums at -70 - +65.degree.. Thus, EtOP(O)HCH2(OEt)2 was added to MeMgBr in THF at 0-5.degree. to give MeP(O)HCH2(OEt)2.

L9 ANSWER 15 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1992:550944 CAPLUS
 DN 117:150944
 TI Additions of 1-(.alpha.-aminoalkyl)benzotriazoles to enol ethers. New routes to 1,3-amino ethers
 AU Katritzky, Alan R.; Rachwal, Stanislaw; Rachwal, Bogumila; Steel, Peter J.
 CS Dep. Chem., Univ. Florida, Gainesville, FL, 32611-2046, USA
 SO Journal of Organic Chemistry (1992), 57(18), 4932-9
 CODEN: JOCEAH; ISSN: 0022-3263
 DT Journal
 LA English
 OS CASREACT 117:150944
 GI



AB 1-(.alpha.-Aminoalkyl)benzotriazoles add readily to enol ethers to give the corresponding 1-benzotriazolyl-3-aminoalkyl ethers, e.g. I (R1 = Ph, Me2CH) in high yields. Subsequent replacement of the benzotriazole moiety by an alkyl or aryl group (with a Grignard reagent) or by a hydrogen atom (with **lithium** aluminum hydride) affords 1,3-amino ethers in good yields. Anchimeric assistance by the amino groups in the substitutions of the benzotriazolyl moiety facilitates the reactions. Full stereochem. is assigned to the stereoisomeric products on the basis of NMR techniques and x-ray diffraction.

L9 ANSWER 16 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1991:582681 CAPLUS
 DN 115:182681
 TI Intramolecular palladium-catalyzed trimethylenemethane cycloadditions: initial studies
 AU Trost, Barry M.; Grese, Timothy A.; Chan, Dominic M. T.
 CS Dep. Chem., Stanford Univ., Stanford, CA, 94305, USA
 SO Journal of the American Chemical Society (1991), 113(19), 7350-62
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 OS CASREACT 115:182681
 GI



AB The potential application of [3 + 2] cycloaddns. to polycarbocycle construction is considerably enhanced by the ability to perform such reactions intramolecularly. The feasibility of such processes is explored in the context of Pd-catalyzed cycloaddns. of 2-[(trimethylsilyl)methyl]allyl carboxylates, e.g., $\text{Me}_3\text{SiCH}_2\text{C}(\text{:CH}_2)\text{CH}(\text{OAc})\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\text{CHCO}_2\text{Et})$, wherein the trimethylenemethane (TMM) precursor fragment (donor) and the electron-deficient olefin (acceptor) are joined by a tether of simple methylene groups of 3, 4, 5, and 8 members. Several versatile synthetic routes to these substrates were developed. 2-Bromo-3-(trimethylsilyl)propene proves to be a key reagent for construction of the donor portion. Acceptors bearing esters, cyano groups, and esp. sulfones were examd. The diastereoselectivity of the reaction was explored both in terms of ring juncture and the diastereofacial selectivity with respect to an oxygen substituent at the allylic position of the acceptor. Excellent cycloaddns. to give the bicyclo[3.3.0]octyl and bicyclo[4.3.0]nonyl systems, e.g., I ($\text{R} = \text{CO}_2\text{Et}$, SO_2Ph) and II, are obsd., whereas larger rings cannot be obtained in this series. The choice of catalyst proves crit., the most useful being either $\text{Pd}(\text{PPh}_3)_4$ and DPPE or, more generally, $(\text{Me}_2\text{CHO})_3\text{P}$ and $\text{Pd}(\text{OAc})_2$. The first cycloaddn. of a 1,1-dialkylated TMM precursor, which fails in intermol. cases, was obsd. in this intramol. series to give a bridgehead-substituted bicycle. A rationale for the obsd. diastereoselectivity is presented.

L9 ANSWER 17 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:492231 CAPLUS

DN 115:92231

TI Organometallic reactions characteristic of chiral heterocyclic compounds: synthesis and stereoselective **Grignard reaction** of chiral 4-oxa-7,7a-diazaperhydroindans

AU Takahashi, Hiroshi; Senda, Takashi; Higashiyama, Kimio

CS Fac. Pharm. Sci., Hoshi Univ., Tokyo, 142, Japan

SO Chemical & Pharmaceutical Bulletin (1991), 39(4), 836-42

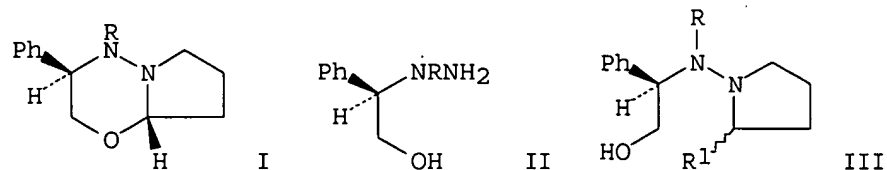
CODEN: CPBTAL; ISSN: 0009-2363

DT Journal

LA English

OS CASREACT 115:92231

GI



AB New heterocyclic compds., 6-phenyl-4-oxa-7,7a-

diazaperhydroindans I (R = Me, CHMe₂), were synthesized by condensation of chiral (2-hydroxyethyl)hydrazines II, prepd. from (R)-phenylglycinol, with .gamma.-chlorobutyraldehyde. The stereoselective **Grignard reaction** of I afforded chiral 2-substituted 1-[N-(2-hydroxy-1-phenylethyl)amino]pyrrolidines (III; R₁ = Me, Et, Ph, CH₂Ph). The mol. structure of I (R = Me) was detd. by x-ray crystallog. anal.

L9 ANSWER 18 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1991:247788 CAPLUS
 DN 114:247788
 TI Peptide derivatives preparation as retroviral protease inhibitors
 IN Kempf, Dale J.; Plattner, Jacob J.; Norbeck, Daniel W.; Boyd, Steven A.; Baker, William R.; Erickson, John W.; Fung, Anthony K. L.; Crowley, Steven R.
 PA Abbott Laboratories, USA
 SO PCT Int. Appl., 222 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8910752	A1	19891116	WO 1989-US2055	19890512
	W: AU, DK, JP, KR, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
				US 1988-194678	19880513
	EP 342541	A2	19891123	EP 1989-108590	19890512
	EP 342541	A3	19911106		
	R: ES, GR				
				US 1988-194678	19880513
	AU 8935660	A1	19891129	AU 1989-35660	19890512
				US 1988-194678	19880513
				WO 1989-US2055	19890512
	EP 415981	A1	19910313	EP 1989-905856	19890512
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
				US 1988-194678	19880513
				WO 1989-US2055	19890512
	JP 03504247	T2	19910919	JP 1989-506033	19890512
				US 1988-194678	19880513
				WO 1989-US2055	19890512

OS MARPAT 114:247788
 AB Peptide derivs. are prepd. as retroviral protease inhibitors. Synthetic processess involved carbodiimide coupling, or coupling in combination with deprotection, and reaction with mixed anhydrides. Thus, N-methyl-1-cyclohexenecarboxamide was treated with BuLi in THF, treated with ClTi(OPr-iso)₃, and then Boc-phenylalaninal to give N-methyl-6-[2-(tert-butoxycarbonyl)amino-1-hydroxy-3-phenyl]propyl-1-cyclohexenecarboxamide. This was then deprotected with HCl in dioxane to give N-methyl-6-(2-amino-1-hydroxy-3-phenylpropyl)-1-cyclohexenecarboxamide-HCl (I). I was coupled with Boc-Leu-Asn in the presence of 180-BuO₂CCl to give the amide.

L9 ANSWER 19 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1990:440676 CAPLUS
 DN 113:40676
 TI 1-[(2-fluorophenyl)(4-fluorophenyl)phenylmethyl]-1H-imidazole and related medical fungicides
 IN Bartroli, Javier; Anguita, Manuel

PA Uriach, J., y Cia. S. A., Spain

SO Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DT Patent

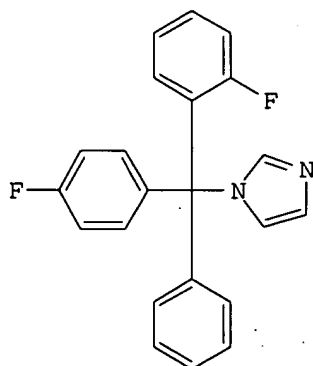
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	EP 352352	A1	19900131	EP 1988-112239	19880728
	EP 352352	B1	19911016		
	R: AT, BE, CH, DE, FR, GB, GR, IT, LI, LU, NL, SE				
	AT 68486	E	19911115	AT 1988-112239	19880728
				EP 1988-112239	19880728
	JP 02048569	A2	19900219	JP 1988-268344	19881026
	JP 06025145	B4	19940406		
				EP 1988-112239	19880728
	CA 1327589	A1	19940308	CA 1988-582916	19881114
				EP 1988-112239	19880728
	US 5149707	A	19920922	US 1990-628937	19901214
				EP 1988-112239	19880728
				US 1988-257095	19881013

OS CASREACT 113:40676; MARPAT 113:40676

GI



AB The title compd. (I) (UR-4506) (and related compds.) were prepd. by reaction of [(2-fluorophenyl)(4-fluorophenyl)**phenyl**]chloromethane (II) (or the correspong trityl chlorides) with imidazole or Li imidazolide in a polar, inert solvent (MeCN) at 0.degree.-reflux for 5 min-3 h. Thus, PhMgBr reacted with 2,4'-difluorobenzophenone to give 97% of the tritylcarbinol, which was converted to II (83%) with SOCl₂. II was stirred with Li imidazolide in MeCN at room temp. for 2 h to give 96% I. I had an MIC of 1.0 .mu.g/mL against Candida albicans ATCC 10231. I formulations are given.

L9 ANSWER 20 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:7568 CAPLUS

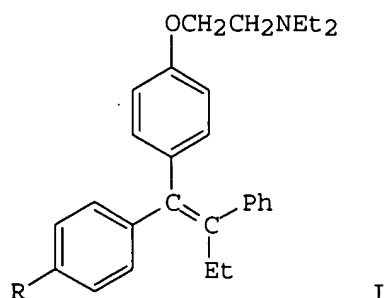
DN 112:7568

TI Synthetic route to poly(silyl)methanes via poly(phenylsilyl)methanes and poly(bromosilyl)methanes

AU Hager, Rudolf; Steigelmann, Oliver; Mueller, Gerhard; Schmidbaur, Hubert

CS Anorg.-Chem. Inst., Tech. Univ. Muenchen, Garching, D-8046, Fed. Rep. Ger.

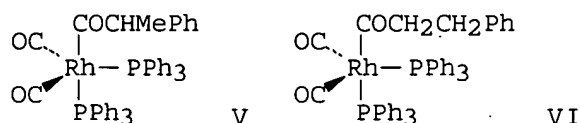
- SO Chemische Berichte (1989), 122(11), 2115-19
CODEN: CHBEAM; ISSN: 0009-2940
- DT Journal
- LA English
- OS CASREACT 112:7568
- AB A three-step synthesis is presented for di- and tri(silyl)methane, two feedstock gases for the chem. vapor deposition of amorphous hydrogenated silicon/carbon alloys (a-SiC:H). Chloro(phenyl)silane and di- or trihalomethanes react with **magnesium** in THF to give high yields of bis- and tris(phenylsilyl)methane, resp. The two products can be converted into bis- and tris(bromosilyl)methane by treatment with anhyd. hydrogen bromide. Bromide/hydride substitution in these precursors is accomplished with **lithium** aluminum hydride in a two-phase system using a phase-transfer catalyst. The compds. CH₂(SiH₂Ph)₂, CH(SiH₂Ph)₃, CH₂(SiH₂Br)₂, CH(SiH₂Br)₃, CH₂(SiH₃)₂, and CH(SiH₃)₃ have been characterized by std. spectroscopic methods, and the crystal and mol. structure of CH(SiH₂Ph)₃ has been detd. by single-crystal x-ray diffraction. The mol. adopts a conformation with crystallog. C₃ symmetry. This result is discussed with regard to the structure of related mols. with three substituents of potential C_s symmetry at a tetrahedral center.
- L9 ANSWER 21 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
- AN 1989:614170 CAPLUS
- DN 111:214170
- TI Derivatives of tamoxifen. Dependence of antiestrogenicity on the 4-substituent
- AU McCague, Raymond; Leclercq, Guy; Legros, Nicole; Goodman, Joyce; Blackburn, G. Michael; Jarman, Michael; Foster, Allan B.
- CS Drug Dev. Sect., Inst. Cancer Res., Sutton/Surrey, SM2 5PX, UK
- SO Journal of Medicinal Chemistry (1989), 32(12), 2527-33
CODEN: JMCMAR; ISSN: 0022-2623
- DT Journal
- LA English
- OS CASREACT 111:214170
- GI



- AB A range of tamoxifen (I; R = H) derivs. substituted in the 4-position of the 1-Ph ring are described. The key steps in the synthesis of I (R = iodo, Br, MeS) were reactions of 1,2-diarylbutanones with the (4-halophenyl)**lithium** or [4-(methylthio)**phenyl**]**magnesium** bromide. Oxidized precursors of 4-(methylthio)tamoxifen were used to prep. the methylsulfinyl and methylsulfonyl derivs. Further derivs. I (R = formyl, hydroxymethyl, oxiranyl, mercapto) were prepd. from 4-bromotamoxifen via the 4-lithio deriv. Several of the derivs. I (R =

Br, iodo, SMe, SOME, SO₂Me, oxiranyl, CHO, CH₂OH) displayed a higher affinity for estrogen receptors (ER) of calf uterine cytosol than did tamoxifen, but there was no relationship between affinity to ER and the ability to inhibit the growth of the MCF-7 breast cancer cell line in vitro.

L9 ANSWER 22 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1988:493295 CAPLUS
 DN 109:93295
 TI Structural characterization in solution of intermediates in rhodium-catalyzed hydroformylation and their interconversion pathways
 AU Brown, John M.; Kent, Alexander G.
 CS Dyson Perrins Lab., Oxford, OX1 3QY, UK
 SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1987), (11), 1597-607
 CODEN: JCPKBH; ISSN: 0300-9580
 DT Journal
 LA English
 OS CASREACT 109:93295
 GI



AB The reaction of HRh(CO)(PPh₃)₃ (I) with CO has been studied by ¹H, ¹³C, and ³¹P NMR. The main species present under ambient conditions is HRh(CO)₂(PPh₃)₂ (II) which exists as two rapidly equilibrating trigonal bipyramidal isomers. Complexes I and II are in rapid equil. via CO and PPh₃ dissociation steps and the square-planar complexes HRh(CO)(PPh₃)₂ (III) and HRh(CO)₂PPh₃ (IV) are likely transient intermediates. The chem. of these PPh₃ complexes is compared with that of closely related 5-phenyl-5H-dibenzophosphole and 1,3-bis(diphenylphosphino)propane analogs. Complex I catalyzes the isomerization of (Z)-[1,2-2H₂]styrene, effectively suppressed by CO or PPh₃. HRh(CO)₂P₂ complexes trap methylenecyclopropane. In the presence of styrene and CO, I is converted into a branched acyl deriv., e.g. V, which readily equilibrates with its linear isomer VI; the stereochem. of these acyl derivs. is detd. by low-temp. NMR; at higher temps. rapid inter- and intramol. exchange processes occur. The relevance of these observations to Rh-catalyzed hydroformylation is discussed and it is proposed that the regiochem. of reaction is largely controlled by competitive olefin trapping involving complexes III and IV.

L9 ANSWER 23 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1984:139172 CAPLUS
 DN 100:139172
 TI Stereoselectivity in the condensation reactions of 1-phenylethyl alkyl and phenyl ketones with organometallic reagents
 AU Alvarez-Ibarra, Carlos; Arjona, Odon; Perez-Ossorio, Rafael; Perez-Rubalcaba, Alfredo; Quiroga, Maria L.; Santesmases, Maria J.
 CS Dep. Quim. Org., Univ. Complutense, Madrid, Spain
 SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1983), (11), 1645-8

CODEN: JCPKBH; ISSN: 0300-9580

DT Journal

LA English

OS CASREACT 100:139172

AB The stereoselectivity of the condensation reactions of PhCHMeCOR (R = Me, Et, CHMe₂, CMe₃, Ph) with organomagnesium and organolithium derivs. in ethers was examd. Results are accounted for on the basis of competition between 2 transition states which may adopt either Karabatsos- or Felkin-type conformations according to the nature of R, the reagent nucleophilicity, and the polarity of the solvent. Polar and steric anal. of this reaction allows highly stereoselective syntheses of diastereoisomeric .alpha.-phenylalkanols to be devised.

L9 ANSWER 24 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1982:563050 CAPLUS

DN 97:163050

TI The stereochemistry of condensation reactions of (.+-.)-3-phenylbutan-2-one with phenylmetallic compounds as a function of the reagent nucleophilicity

AU Arjona, Odon; Perez-Ossorio, Rafael; Perez-Rubalcaba, Alfredo; Quiroga, Maria L.

CS Dep. Quim. Org., Univ. Complutense, Madrid, 3, Spain

SO Journal of the Chemical Society, Chemical Communications (1982), (8), 452-3

CODEN: JCCCAT; ISSN: 0022-4936

DT Journal

LA English

OS CASREACT 97:163050

AB The stereoselectivity of nucleophilic addn. reactions of (.+-.)-MeCHPhCOMe with PhMgBr, Ph₂Mg, PhLi, and Ph₃Al was studied. The percentage of (R,S)-MeCHPhCPh(OH)Me (I) increased in the order Al < Mg < Li. Addn. of LiClO₄ to the reaction mixt. caused small increases in stereoselectivity in favor of I; similar effects were obsd. on increasing the polarity of the solvent. In the presence of CuI or FeCl₃ the percentage of I decreased, indicating a partially radical mechanism.

L9 ANSWER 25 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1982:143137 CAPLUS

DN 96:143137

TI New approach to Lythraceae alkaloids: total synthesis of (.+-.)-vertaline

AU Hart, David J.; Kanai, Kenichi

CS Dep. Chem., Ohio State Univ., Columbus, OH, 43210, USA

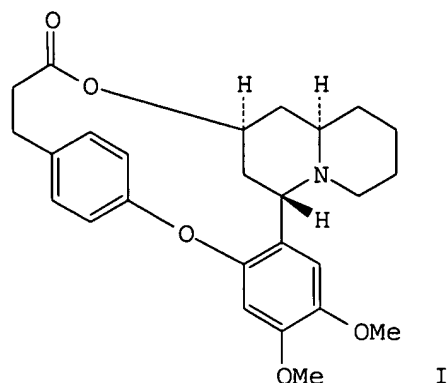
SO Journal of Organic Chemistry (1982), 47(8), 1555-60

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

GI



AB A new approach to Lythraceae alkaloids is described within the context of a total synthesis of (+-)-vertaline (I). The use of N-silyl imines in the prepn. of benzylic amines as well as a stereoselective bicycloannulation approach to the synthesis of quinolizidinones is discussed.

L9 ANSWER 26 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1981:497239 CAPLUS

DN 95:97239

TI Vinyl selenides and selenoxides: preparation, conversion to **lithium** reagents, Diels-Alder reactivity, and some comparisons with sulfur analogs

AU Reich, Hans J.; Willis, William W., Jr.; Clark, Peter D.

CS Dep. Chem., Univ. Wisconsin, Madison, WI, 53706, USA

SO Journal of Organic Chemistry (1981), 46(13), 2775-84

CODEN: JOCEAH; ISSN: 0022-3263

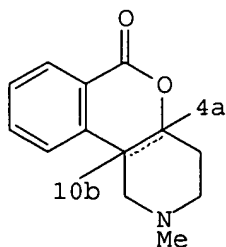
DT Journal

LA English

AB A variety of aryl vinyl selenides are prepd by reaction of vinyl Grignard reagents with aryl selenenyl bromides, or by reductive elimination of the adducts of [bis(arylseleno)methyl]**lithiums** with carbonyl compds. Ph vinyl selenide is deprotonated with $\text{LiN}(\text{CHMe}_2)_2$ at -78°C in THF. Vinyl selenides with β -alkyl groups require Li tetramethylpiperidide (I) and higher temps. (-50°C) for complete deprotonation. Allylic Li reagents were obtained from 1-propenyl and 2-methyl-1-propenyl selenides whereas 1-butenyl or 3-methyl-1-butenyl selenides gave vinyl lithium reagents. Reaction with electrophiles proceeds in good to excellent yield. Primary halides require $(\text{Me}_2\text{N})_3\text{PO}$ to react well. Unhindered carbonyl compds. react without enolization. Deprotonation with $\text{LiN}(\text{CHMe}_2)_2$ is reversible, and during competitive deprotonation studies with $\text{LiN}(\text{CHMe}_2)_2$ aryl vinyl sulfides are thermodyn. less acidic than aryl vinyl selenides. Deprotonation with I is irreversible, and competitive deprotonation studies showed vinyl selenide to be kinetically more acidic as well. $m\text{-F}_3\text{CC}_6\text{H}_4\text{SCH}_2\text{CH}=\text{CH}_2$, as expected, is more acidic than the Se compd. Vinyl selenoxides can be prepd with 3-ClC₆H₄CO₂OH. They are not thermally stable enough to serve as acetylene equiv. in Diels-Alder reactions. $\text{PhSeCH}=\text{CH}_2$ gives a Diels-Alder addn. product with 1,4-diphenylisobenzofuran but failed to give cycloaddn. products with less reactive dienes. $\text{PhSeOCH}=\text{CH}_2$ does not give a useful yield of Li reagent upon reaction with amide bases.

L9 ANSWER 27 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

- AN 1980:567250 CAPLUS
DN 93:167250
TI The photochemistry of 4-**phenyl**-1-iodobutane and 4-**phenyl**-2-iodomethyl-1-butene
AU Charlton, James Leslie; Williams, Gaynor Jane; Lypka, Gerald Nicholas
CS Dep. Chem., Univ. Manitoba, Winnipeg, MB, R3T 2N2, Can.
SO Canadian Journal of Chemistry (1980), 58(12), 1271-4
CODEN: CJCHAG; ISSN: 0008-4042
DT Journal
LA English
AB The photochem. of 4-**phenyl**-1-iodobutane (I) and 4-**phenyl**-2-iodomethyl-1-butene (II) is examd. to det. the effect of structure on the character of the intermediates generated on photolysis. The irradiation of I gives only radical intermediates. By contrast the photolysis of II gives products that are more consistent with cationic intermediates.
- L9 ANSWER 28 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1979:483017 CAPLUS
DN 91:83017
TI Synthesis and biological activity of cocaine analogs. 2. 6H-[2]Benzopyrano[4,3-c]pyridin-6-ones
AU Lazer, Edward S.; Hite, Gilbert J.; Nieforth, Karl A.; Stratford, Eugene S.
CS Sch. Pharm., Univ. Connecticut, Storrs, CT, 06268, USA
SO Journal of Medicinal Chemistry (1979), 22(7), 845-9
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
GI

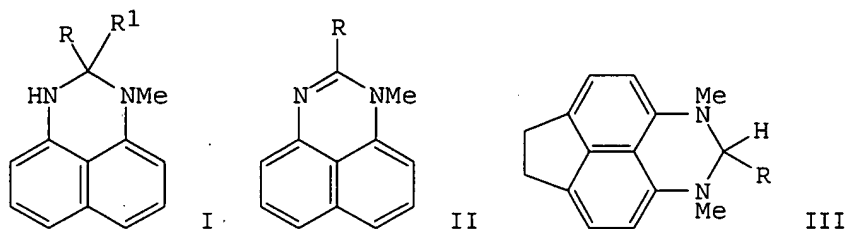


I, 4a, 10b
II, 4a?, 10b?
III, 4a?, 10b?

- AB 1,2,3,4-Tetrahydro-2-methyl-6H-[2]benzopyrano[4,3-c]pyridin-6-one (I) [70932-75-1], cis- (II) [70932-81-9], and trans-1,3,4,4,4a.alpha.,10b.beta.-hexahydro-2-methyl-6H-[2]benzopyrano[4,3-c]pyridin-6-one (III) [70932-77-3] were prepd. and evaluated for biogenic amine uptake inhibition. In comparison to cocaine and tropacocaine the 3 prepd. compds showed weak inhibition of norepinephrine [51-41-2] uptake by rat brain synaptosomal preps. III showed 36% inhibition, whereas II was ineffective.
- L9 ANSWER 29 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1976:105530 CAPLUS
DN 84:105530
TI Heterocyclic analogs of pleiadine. XIX. Reaction of perimidine

derivatives with organometallic compounds

AU Pozharskii, A. F.; Smirnova, L. P.; Tertov, B. A.; Kashparov, I. S.; Sokolov, V. I.
 CS Rostov. Gos. Univ., Rostov-on-Don, USSR
 SO Khimiya Geterotsiklicheskikh Soedinenii (1975), (12), 1682-7
 CODEN: KGSSAQ; ISSN: 0132-6244
 DT Journal
 LA Russian
 GI



AB Dihydroperimidines (I, R = Bu, Ph, 2-thienyl, R₁ = H) were obtained in 84-98% yields by treatment of perimidine (II, R = H) with BuLi, PhLi, 2-thienyllithium, and PhMgBr. Also obtained was 5% 1-methylperimidine-2-carboxylic acid. Analogously obtained were 60 and 77% I (R = R₁ = Bu, Ph). Treatment of II (R = Cl) with BuLi and PhLi gave 28-47% II (R = Bu, Ph). Addnl. obtained was 90-1% III (R = Me, Ph, 2-thienyl).

L9 ANSWER 30 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1975:459799 CAPLUS
 DN 83:59799
 TI Aromatic hydrocarbon polymers
 IN Hay, Allan S.; Relles, Howard M.
 PA General Electric Co.
 SO U.S., 3 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3810879	A	19740514	US 1972-240786	19720403
				US 1972-240786	19720403

AB Arom. diolefins, such as 2,2-bis(4-phenyl-3-cyclohexen-1-yl)propane (I), were manufd. by Grignard reaction, and polymd. in the presence of Li to give arom. hydrocarbon polymers, such as poly[2,2-bis(4-phenyl-3-cyclohexen-1-yl)propane] (II) useful for dielectrics. Thus, a mixt. of I 10 (by reaction of 2,2-bis(4-oxocyclohexyl)propane with bromophenyl Mg) and Li 6 in THF 200 parts was stirred for 11 hr at apprx.25.degree. in N, and treated with 510 parts CH₃OH to ppt. II with 90% yield and 26,500 mol. wt.

L9 ANSWER 31 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1974:551268 CAPLUS
 DN 81:151268
 TI Quasi-Favorskii rearrangement. Synthesis of 1-phenylcycloalkanecarboxylic acids

- AU Stevans, Calvin L.; Pillai, P. Madhavan; Taylor, K. Grant
CS Dep. Chem., Wayne State Univ., Detroit, MI, USA
SO Journal of Organic Chemistry (1974), 39(21), 3158-61
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
AB .alpha.-Halo ketones without an .alpha.-H undergo C skeleton rearrangements on treatment with the Li salt of arom. primary amines in ether, yielding amides. The action of Li anilide on 1-benzoyl-1-bromocyclohexane gave 55% 1-**phenyl**-cyclohexanecarboxanilide and 30% 1-benzoyl-1-(phenylamino)-cyclohexane. The yield of the rearranged amide was improved by using a more hindered amine such as .omicron.-toluidine or 2,6-dimethylaniline. Also, a p-MeO substituent on the **phenyl** group of the .alpha.-halo ketone facilitated the rearrangement while a m-Cl substituent decreased the yield of the rearranged amide. The extension of this rearrangement to .alpha.-bromocycloalkyl Ph ketones and hydrolysis of the resulting amides gave 1-phenylcycloalkane-carboxylic acids. Treatment of endo-2-benzoyl-exo-2-bromonorbornane with Li anilide gave endo-2-phenylnorbornane-exo-2-carboxanilide, as expected from a concerted semibenzilic rearrangement mechanism.
- L9 ANSWER 32 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1974:15004 CAPLUS
DN 80:15004
TI Reaction of **lithium phenyl**- and vinylacetylenides with trimethylchloro- and trimethylfluorosilanes
AU Florensova, O. N.; Volkova, L. I.; Maroshin, Yu. V.; Kryazhev, Yu. G.
CS Irkutsk. Inst. Org. Khim., Irkutsk, USSR
SO Zhurnal Obshchei Khimii (1973), 43(9), 1992-3
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Russian
AB Treating Mg and Li derivs. of PhC.tplbond.CH and CH2:CHC.tplbond.CH with Me3SiCl and Me3SiF to give RC.tplbond.CSiMe3 (R = Ph, CH2:CH). The best yields were obtained from Li acetylides and Me3SiF (71-4%).
- L9 ANSWER 33 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1968:506783 CAPLUS
DN 69:106783
TI Reaction of organolithium and organomagnesium compounds with carbonyl derivatives of barenes and neobarenes
AU L'vov, A. I.; Zakharkin, L. I.
CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1967), (12), 2653-62
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
GI For diagram(s), see printed CA Issue.
AB Tertiary carboranyl alcs. are cleaved at C-C bond by catalytic amts. of RNa. Reaction of MeMgI with 0.3 mole 1-methyl-2-acetylcarborane (I) in Et2O gave 53% starting ketone, 42% methylcarboranyl(dimethyl)carbinol (II) and 4.8% methylcarborane (III); MeLi similarly gave 84% starting ketone and 16% III; similar reaction in tetrahydrofuran (THF) gave from MeMgI 43% starting ketone, 32% III and 25% II, while with MeLi 90% III was formed and 10% unreacted ketone was recovered. Methylcarboranylmagnesium bromide (IIIa) in THF treated with Me2CO 3 hrs. gave 8% II and 92% III. II kept overnight with EtONa in EtOH gave no residual II and a considerable amt.

of III. MeMgI and methylcarboranylcarboxyl chloride in Et₂O gave 30% II, m. 87-9.degree.. EtMgBr and I in Et₂O gave in 0.5 hr. 94% 1-methylcarboranylethanol, m. 153-4.degree.. 1-Methyl-7-acetylneocarborane and MeMgI in Et₂O 0.5 hr. gave 91.5% starting ketone and 8.5% methylneocarboranyldimethylcarbinol (IV); MeLi similarly gave 55% above carbinol and 3% methylneocarborane, besides 42% initial ketone. Methylneocarboranyllithium (V) in C₆H₆ gave with Me₂CO (20% excess) in 2 hrs. 95% IV, m. 29-30.degree.. MeMgI and 1-methyl-7-benzoylneocarborane gave in 2 hrs. in Et₂O 62% (methylneocarboranyl)phenylmethylcarbinol, b1.cntdot.5 152-3.degree., n_{20D} 1.5807, also obtained from AcPh and V. Similar reaction with PhMgBr gave 88% (methylneocarboranyl)diphenylcarbinol, m. 90-1.degree.. MeMgI and 2,3-carborano-4,5-benzocyclopentanone in Et₂O gave 82% VI m. 140-1.degree.; MeLi gave 76% VI, while PhLi gave 77% VII, m. 165-6.degree.. Bis(phenylcarboranyl) ketone and MeMgI in Et₂O gave 82% bis(phenylcarboranyl)carbinol, m. 272-4.degree., while PhMgBr gave in 10 hrs. at 45.degree. in Et₂O-C₆H₆ 66.7% same carbinol. 1-Phenyl-2-benzoylcarborane (VIII) and MeMgI gave 45% (phenylcarboranylmethyl)methylcarbinol, m. 128-9.degree., while the filtrate from this was treated with CrO₃ to yield VIII, phenyl (phenylcarboranyl)carbinol (IX) and (phenylcarboranyl)phenylmethylcarbinol, all isolated as acetates after acetylation with Ac₂O. PhMgBr and VIII in THF gave 88% IX m. 122-4.degree., and some phenylcarborane (X); similar reaction in Et₂O gave Ph₂, X and Ph₃COH as well as [o-PhCB10H10CC(OH)Ph]₂, m. 239-40.degree.. PhLi and methylcarboranecarboxaldehyde (XI) in Et₂O 0.5 hr. gave 85% (methylcarboranyl)phenylcarbinol (XII), m. 107.degree.; the same formed from this reaction in THF. IIIa and XIa in Et₂O gave 93.5% 1-(methylneocarboranyl)-2-carboranyl-1-ethanol, m. 239-40.degree.. The appropriate aldehyde and methylcarboranyllithium gave 95% bis(methylcarboranyl)carbinol, m. 177-8.degree.. XII and EtONa-EtOH in 12 hrs. at 20.degree. gave III as the sole product. iso-PrMgBr and XI in Et₂O gave 92% methylcarboranylcarbinol, m. 268-9.degree.. Ozonolysis of vinyl or allyl carborane or neocarborane and treatment of the mixt. with Me₂S at -30.degree. gave after warming and an aq. treatment the following aldehydes RCHO: o-HCB10H10C, m. 212-13.degree. (2,4-dinitrophenylhydrazones, m. 183-4.degree.); o-MeCB10H10C, m. 220-2.degree. (189.degree.); o-HCB10H10CCH₂, m. 94-5.degree. (m. 163-4.degree.); o-MeCB10H10CCH₂, m. 140-2.degree. (m. 176-7.degree.); m-MeCB10H10C, m. 143-4.degree. (m. 177-8.degree.); m-MeCB10H10CCH₂, b₂ 98.degree., (m. 154-5.degree.). Carboranyllithium or corresponding RMgX in THF treated with ethoxymethylaniline and heated 1 hr. gave after an aq. treatment and steam distn. of the org. layer with dil. H₂SO₄ 40-55% carboranecarboxaldehyde, XI and 25% XIa. (Methylneocarboranyl)methylcarbinol acetate, b₇ 127-30.degree., gave 1-methyl-7-vinylneocarborane, m. 75-6.degree.. Allyl bromide added to V in C₆H₆ and heated 2 hrs. gave 80% 1-methyl-7-allylneocarborane, b₇ 95-6.degree., n_{22D} 1.5260, d₂₀ 0.9040. Similarly was prepd. 80% 1-methyl-2-allylcarborane, b₁₃ 142-3.degree., d₂₀ 0.9295.

L9 ANSWER 34 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1968:496600 CAPLUS

DN 69:96600

TI Reactions of azides and fused-ring tetrazoles with organomagnesium halides and organolithium compounds

AU Skripnik, L. I.; Pochinok, V. Ya.

CS Kiev. Gos. Univ. im. Shevchenko, Kiev, USSR

SO Khimiya Geterotsiklicheskich Soedinenii (1968), (3), 474-7

CODEN: KGSSAQ; ISSN: 0132-6244

DT Journal

LA Russian
GI For diagram(s), see printed CA Issue.
AB A soln. of 2 g. 6-phenylthiazolo[2,3-e]tetrazole (I) in 200 ml. Et₂O was dropwise treated during 30 min. with equimol. amt. PhMgBr in 20 ml. Et₂O, the mixt. heated 30 min., and worked up as usual and extd. with Et₂O to give 1.82 g. **phenyl**(4-**phenyl**-2-thiazolyl)triazene, m. 159-60.degree. (EtOH). The latter was also obtained using PhLi in the reaction. Similarly 2 g. 4-chloro-2-azidobenzothiazole (II) treated with an equimol. amt. PhMgBr afforded 2.6 g. **phenyl**(4-chloro-2-benzothiazolyl)triazene, m. 174.degree. (EtOH). The latter was also prepd. from 2.1 g. II and PhLi at -10.degree.. Analogously, 1 g. I treated with 1.6 g. BuMgBr in Et₂O during 10 min., the mixt. stirred for 10 min. and worked up gave 0.72 g. butyl(4-**phenyl**-2-thiazolyl)-triazene, m. 88.degree. (decompn.) (petroleum ether). The latter was also obtained using PhLi in the reaction. Analogously, 2.1 g. II and BuMgBr reacted to give 95% yield of 4-chloro-2-aminobenzothiazole, m. 208.degree., which was also obtained when MeMgI, PhCH₂MgCl, or BuLi were used in the reaction. A soln. of 2 g. NaCN and 0.2 g. NaOH in 40 ml. 75% EtOH was treated with 1.9 g. 4-methyltetrazolo[1,5-b]benzothiazole, heated for 30 min., poured into 100 ml. water, and acidified with 50% AcOH to give 1.63 g. cyano(4-methyl-2-benzothiazolyl)triazene, m. 157.degree. (decompn.) (EtOH). Fused-ring tetrazoles are tautomers and the course of the reaction depends on azido-tetrazole equil., which is affected by the nature of the substituent in the N-contg. ring and by the chem. nature of the coreactant.

L9 ANSWER 35 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1967:443166 CAPLUS
DN 67:43166
TI Reaction of organometallic compounds with .alpha.-ethylenic acetals
AU Quelet, Raymond; Broquet, Colette; D'Angelo, Jean
CS Fac. Sci., Sorbonne, Paris, Fr.
SO Comptes Rendus des Seances de l'Academie des Sciences, Serie C: Sciences Chimiques (1967), 264(15), 1316-19
CODEN: CHDCAQ; ISSN: 0567-6541
DT Journal
LA French
AB The mechanism of the action of organomagnesium compds. on .alpha.-ethylenic acetals was further studied by varying the relative proportions of acetal and RMgX in the condensation of BuMgBr on the di-Et acetal (I) of acrolein under conditions previously described (CA 66: 37182z). Similar expts. with mole ratios 1:2 acetal-RLi refluxed 2 hrs. generally gave better yields than with the corresponding organomagnesium compds. I treated with BuLi gave 1-ethoxy-1-heptene, b. 170.degree.; I with PhLi gave 1-ethoxy-3-**phenyl**-1-propene, b16 110.degree.; I with C₈H₁₇Li, 1-ethoxy-1-undecene, b32 142-5.degree., n18D 1.440 [2,4-dinitrophenylhydrazone (DNPH) corresponding to the undecanal m. 108.degree.]. Two .beta.-substituted .alpha.-ethylenic acetals were treated with BuLi: (1) the di-Et acetal of crotonaldehyde gave total transposition to 62% (19% cis and 81% trans) 1-ethoxy-3-methyl-1-heptene, b22 80-3.degree., n17D 1.4315 (3-methylheptanal deriv. b163-40, n18D 1.4210; 2,4-DNPH deriv. m. 73.degree.); and (2) the di-Et acetal of cinnamaldehyde gave a radical-type addn. to form 46% di-Et acetal of 2-benzylhexanal, b0.3 103-4.degree., n17D 1.4800 (2,4-DNPH deriv. m. 125.degree.).

L9 ANSWER 36 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1965:439004 CAPLUS

DN 63:39004

OREF 63:6968c-f

TI Dihydropyridines. IX. Reactions of various **magnesium** and **lithium** organic compounds with 3,5-dicyano-4-methylpyridine

AU Kuthan, J.; Bartonickova, R.

CS Vysoka Skola Chem. Technol., Prague

SO Collection of Czechoslovak Chemical Communications (1965), 30(8), 2609-14
CODEN: CCCCAK; ISSN: 0010-0765

DT Journal

LA German

GI For diagram(s), see printed CA Issue.

AB cf. CA 61, 9461a, 10655a. MeMgBr, BuMgBr, PhMgBr, and PhCH₂MgBr (from 0.03 mole Mg and 0.03 mole halogen deriv.) allowed to react as usual with 0.008 mole title compd. (I) gave compds. of type II (R, yield, m.p., solvent, λ (EtOH), and ν (CHCl₃) given): Me, 87%, 119-20.degree., C₆H₆, -, -; Bu, 90%, 86-7.degree., C₆H₆-cyclohexane, 217 m.mu. (log ϵ . 4.28), 258 m.mu. (log ϵ . 3.90), 372 m.mu. (log ϵ . 3.60), 1556, 1631 cm.⁻¹ (C:C), 2202 cm.⁻¹ (C:N), 3429 cm.⁻¹ (free NH), 3291 cm.⁻¹ (bound NH); Ph, 68%, 143-4.degree. C₆H₆, 217 m.mu. (log ϵ . 4.35), inflection point 241 m.mu. (log ϵ . 4.16), 380 m.mu. (log ϵ . 3.63), 1515, 1557, 1633 cm.⁻¹ (C:C), 2203 cm.⁻¹ (C:N), 3423 cm.⁻¹ (free NH), 3281 cm.⁻¹ (bound NH); PhCH₂, 45%, 152-3.degree., C₆H₆-cyclohexane, 217 m.mu. (log ϵ . 4.38), 255 m.mu. (log ϵ . 4.03), 372 m.mu. (log ϵ . 3.66), 1508, 1553, 1631 cm.⁻¹ (C:C), 2202 cm.⁻¹ (C:N), 3420 cm.⁻¹ (free NH), 3283 cm.⁻¹ (bound NH). Reaction of I with alkyl lithium compds. gave identical substances as above in lower yields. Oxidn. of II (R = Bu) and II (R = Ph), by treating 0.02 mole in 2.3 ml. AcOH in 10 min. with 300 mg. NaNO₂, keeping the mixt. overnight, and working up as usual gave, resp., 260 mg. III (R = Bu), m. 42-43.degree., ν (CHCl₃) max 1459, 1548, 1572 cm.⁻¹ (C:C, C:N), 2234 cm.⁻¹ (C:N), and 400 mg. III (R = Ph), m. 173-3.5.degree. (EtOH-H₂O), ν (CHCl₃) 1443, 1542, 1570 cm.⁻¹ (C:C, C:N), 2235 cm.⁻¹ (C:N). Analogous oxidn. of II (R = PhCH₂) (2 g.) gave a mixt. which was sepd. to yield BzH, I, and 410 mg. III (R = PhCH₂), m. 86-7.degree. (Me₂CO-H₂O 1:1), ν (CHCl₃) 1452, 1491, 1548, 1569 cm.⁻¹ (C:C, C:N), 2234 cm.⁻¹ (C:N). III (R = PhCH₂) resisted attempts at further oxidn. with NaNO₂ in AcOH.

L9 ANSWER 37 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1965:91059 CAPLUS

DN 62:91059

OREF 62:16285h,16286a

TI Organic peroxides. VIII. Reactions of dibenzoyl peroxide and tert-butyl perbenzoate with Grignard reagents and **phenyl-lithium**

AU Edward, J. T.; Samad, S. A.

CS McGill Univ., Montreal, Can.

SO Pakistan Journal of Scientific and Industrial Research (1964), 7(3), 200-2
CODEN: PSIRAA; ISSN: 0030-9885

DT Journal

LA English

AB cf. CA 62, 506g. Dibenzoyl peroxide was allowed to react with several Grignard reagents under N, in ether at 0-4.degree.. After 30-60 min. stirring the reaction mixt. was treated with cold water, acidified with dil. HCl, and the reaction products sepd. The yields of ester upon reaction of dibenzoyl peroxide with RMgBr were (R and % yield given): p-biphenyl, 15; Bu, 20; Ph, 23; and cyclohexyl, 44. Phenyllithium gave poorer yields than the Grignard reagents. tert-Butyl perbenzoate was similar to dibenzoyl peroxide.

L9 ANSWER 38 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1964:483858 CAPLUS

DN 61:83858

OREF 61:14557b-d

TI The action of anhydrous cobalt chloride and anhydrous uranyl nitrate on several aromatic organomagnesiums and organolithiums. Coupling reactions. I

AU Morizur, Jean Pierre

CS Ecole Natl. Super. Chim., Paris

SO Bulletin de la Societe Chimique de France (1964), (6), 1331-7

CODEN: BSCFAS; ISSN: 0037-8968

DT Journal

LA Unavailable

AB The action of small amts. of anhyd. COCl_2 on various Grignard reagents (RMgBr) in the presence of PhBr or BuBr gave the dimeric species R_2 . Compds. prepd. in this way were 55% 2,2'-dimethylbibenzyl; 53% 2,3-dibenzylbutane, b.p. 110. degree.; 55% 2,5-diphenylhexane; 50% 4,4'-diisopropylbiphenyl (II), 60% 4,4'-di(tert-butyl)biphenyl (III); 55% 1,1,2,2-tetraphenylethane (IV) 2,2'-dimethoxy-5,5'-dimethylbiphenyl (V), and 25% 2,2'-bithiophene (VI). 4-H₂C:CHCH₂C₆H₄MgBr gave an uncharacterized polymeric product. Neither PhMgBr nor 4-BrC₆H₄MgBr gave the desired dimer. The latter gave 4-BrC₆H₄Bu with BuBr . Analogous dimerization reactions were observed with various organolithium (RLi) compds. and COCl_2 in the presence of PhBr . Compds. prepd. in this way were 65% 2,2'-dimethylbiphenyl, 60% 4,4'-dimethylbiphenyl, 60% I, 60% II, 60% III, 60% IV, 55% 4,4'-dimethoxybiphenyl, 65% V, 65% 4,4'-(N,Ndimethylamino)biphenyl, and 30% VI. All of the coupling reactions are vigorously exothermic. Mechanisms for the reactions are suggested. The reaction of anhyd. $\text{UO}_2(\text{NO}_3)_2$ with PhMgBr or PhLi proceeds vigorously to give C_6H_6 , Ph_2 (apprx.25%), and a ppt. of $\text{UO}_3 \cdot x\text{-H}_2\text{O}$ where $x = 0.5\text{-}2.0$.

L9 ANSWER 39 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1964:468691 CAPLUS

DN 61:68691

OREF 61:11874a-b

TI Steric difference between the substitution reaction products of **lithium** alkyls and Grignard reagents with .alpha.-aminonitriles. An asymmetric reproduction

AU Yoshimura, Juji; Ogo, Yoshiaki; Sato, Tetsuo

CS Inst. Technol., Tokyo

SO Journal of the American Chemical Society (1964), 86(18), 3858-62

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB Substitution reactions of 3,4-O-iso-propylidene-N-substituted-D-threosaminonitriles and -D-erythrosaminonitriles with PhMgBr and PhLi have been investigated. The reaction with PhMgBr gave an erythro deriv. and the reaction with PhLi gave threo products predominantly, regardless of the configuration of the .alpha.-carbon in the substrate. N-Substituted acetone-D-glyceroldimines also gave the same result. Consideration of the steric difference between the **Grignard reaction** and the PhLi reaction leads to two possible explanations for the asym. induction of optically active imine-bearing oxygenlike atoms on the .alpha.- and .beta.-carbon.

L9 ANSWER 40 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1964:60729 CAPLUS

DN 60:60729

OREF 60:10625c-d

TI Halogen-metal interchange reactions of 3,3,3-trichloro-1,2-epoxypropane and of chloral with organolithium compounds and Grignard reagents

AU Reeve, Wilkins; Fine, Leonard W.

CS Univ. of Maryland, College Park

SO Journal of the American Chemical Society (1964), 86(5), 880-2

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB 3,3,3-Trichloro-1,2-epoxypropane reacts with MeLi or PhLi to form 3,3-dichloroallyl alc. and Me Cl or PhCl. The formation of these products shows that a halogen-metal interchange reaction has occurred. None of the products expected from the opening of the epoxide ring by a carbanion could be detected. Even with BuMgCl and with Bu₂Mg, a similar halogen-metal interchange reaction occurs. This is believed to be the first case reported in which a Grignard reagent undergoes a halogen-metal interchange reaction rapidly and to the exclusion of the usually observed reaction path. With BuMgCl, the epoxide ring is also attacked by chloride ion, but not by the Bu carbanion, and the chlorohydrin is formed. PhLi also undergoes a halogen-metal interchange reaction with chloral rather than adding to the carbonyl group in the expected manner. The above reactions indicate that the Cl₃C group is unusually reactive in the halogen-metal interchange reaction.

L9 ANSWER 41 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1963:2894 CAPLUS

DN 58:2894

OREF 58:432d-e

TI Allylic carbanion reactions

AU Young, William G.

CS Univ. of California, Los Angeles

SO Am. Chem. Soc. Div., Petrol. Chem., Preprints (1959), 4(No. 4), B45-B46

DT Journal

LA Unavailable

AB Both MeCH:CHCH₂Cl and CH₂:CHCHClMe react with Mg to form MeCH:CHCH₂MgCl, which, however, reacts with CO₂ to form HO₂CCHMeCH:CH₂. Similarly, PhCH:CHCH₂MgBr (colorless) and Me₂CO give Me₂C(OH)CHPhCH:CH₂. This suggests a cyclic mechanism. In contrast, cinnamyl lithium, -sodium, or -potassium (highly colored) react with H donors or CO₂ to form mixts., predominantly PhCH:CHMe or PhCH:CHCH₂CO₂H. This suggests a carbanionic mechanism.

L9 ANSWER 42 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1962:482892 CAPLUS

DN 57:82892

OREF 57:16456i,16457a-b

TI Organic peroxides. III. Reactions of dialkyl peroxides with organolithium and organomagnesium compounds

AU Baramki, G. A.; Chang, H. S.; Edward, J. T.

CS McGill Univ., Montreal

SO Canadian Journal of Chemistry (1962), 40, 441-4

CODEN: CJCHAG; ISSN: 0008-4042

DT Journal

LA Unavailable

AB cf. CA 49, 5379f; 50, 12979a. A series of arylalkyl ethers (I) were prepd. from the reactions of aryllithium (II) or Grignard reagent (III) with dialkyl peroxides (IV). IV dild. with ether was added at

0-80.degree. to ether solns. of II or III. The mixt. was left for 12-14 hrs. and worked up in the usual manner for a **Grignard reaction**. PhOMe was prepd. from di-Me or Me tert-Bu peroxide with PhMgBr or PhLi; PhOEt from di-Et peroxide with PhMgBr or PhLi; tert-BuOPh from ditert-Bu peroxide with PhLi; Me p-anisyl ether from di-Me peroxide with p-anisyllithium or p-anisylmagnesium bromide; Me p-biphenyl ether from di-Me peroxide with p-biphenyllithium or p-biphenylmagnesium bromide; Me 2-naphthyl ether from di-Me peroxide with 2-naphthyllithium; Ph3COMe from di-Me peroxide with Ph3CNa. No tert-BuOPh was obtained from these reactions. The superiority of II than III was observed. Optimum conditions for the reaction were detd. Ionic or 4-center mechanisms are considered for the reactions.

L9 ANSWER 43 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1962:475578 CAPLUS

DN 57:75578

OREF 57:14970f-i

TI Syntheses of dibiphenylalkanes, biphenylalkanes and their hydro derivatives with organic **magnesium** and **lithium** compounds

AU Petrov, A. D.; Kaplan, E. P.; Letina, Z. I.

SO Tr. Vses. Soveshch, po Khim. Pererabotke Neft. Uglevodorodov Poluprod. dlya Sinteza Volokonni Plast. Mass, Baku (1960), 1957, 295-301

DT Journal

LA Unavailable

AB Reaction of p-PhC6H4MgBr with esters of acetic, butyric, caprylic, undecylenic, and palmitic acids and hydrogenation of the resulting carbinols with a Cu-Cr catalyst to the corresponding dibiphenylalkylmethanes, followed by hydrogenation with Raney Ni gave the corresponding bis(bicyclohexyl)alkylmethanes (alkyl groups and m.ps. given): Me 46, Pr 20, C7H15 2, C10-H21 -3, and C15H31 50.degree.. Increasing the length of the alkyl group decreased the viscosity, but increased the oxidn. stability as detd. by the induction period and adsorption of O at 150-200.degree.. Treatment of the di-Li deriv. of biphenyl with various alkyl bromides gave mixts. of the corresponding mono-(I) and dialkyldihydrobiphenyls (II) (alkyl substituents and m.ps. given): Bu -1.degree., di-Bu -19.degree., C6H13 7.degree., di-C6H13 -25.degree., C9H19 20.degree., di-C9H19 -12.degree., C10H21 35.degree., di-C10H21 -17.degree.. The viscosities of I were lower than those of II. Stability to oxidn. increased with increasing mol. wt. Comparison of the ultraviolet and infrared spectra of I and II with known hydrogenated biphenyl derivs. indicated that the alkyl group of I was in the 3-position and that the 2 alkyl groups of II were in the 3- and 6-positions.

L9 ANSWER 44 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1962:403839 CAPLUS

DN 57:3839

OREF 57:728d-i,729a-g

TI Reactions of .alpha.-dimethylaminophenylacetonitrile and its ethylation product with basic or nucleophilic reagents

AU Morris, Gene F.; Hauser, Charles R.

CS Duke Univ., Durham, NC

SO Journal of Organic Chemistry (1962), 27, 465-71
CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA Unavailable

AB A study was made of the reactions of .alpha.-(dimethylamino)phenylacetonitrile (I) and its ethylation product (II) with basic or nucleophilic

reagents including KNH_2 , BuLi , Grignard reagents, LiAlH_4 , and Na . The reactions of I involved ionization of the α -H, addn. to the nitrile C, and displacement of the nitrile group from the α -C; those of II occurred at the nitrile C and α -C. Some interesting comparisons were made between the reactions of phenylacetone nitrile and I and between those of I and II. I, b0.8 76-8.degree., n25D 1.5116, was prepd. in 94% yield from BzH and the appropriate reagents. I converted into its carbanion by KNH_2 in NH_3 and this carbanion ethylated with EtBr using 0.8 mole each of the reactants in 800 ml. NH_3 gave 137-40 g. II, b0.5 70-2.degree., n25D 1.5113. In an attempt to effect self-condensation of I, a mixt. of 0.10 mole I and 0.05 mole KNH_2 in 400 ml. liquid NH_3 stirred 8 hrs., replaced by Et_2O , stirred 14 hrs. at 25-30.degree., 4 ml. AcOH added, followed by H_2O , and worked up gave 76% I. BuLi (100 ml.) added to 16.7 g. I in 250 ml. Et_2O cooled in an ice bath, after 6 hrs. 13 g. EtBr added, left 1 hr. at room temp., then 250 ml. 1.5N HCl added, refluxed overnight, the 2 layers sepd., the aq. acid layer extd. with Et_2O , dried, and the residue distd. gave 6 g. propiophenone, b4.2 77-8.degree., n25D 1.5232; 2,4-dinitrophenylhydrazone m. 194-5.degree.. The acid layer made alk. and extd. with Et_2O gave 8.9 g. 1-dimethylamino-1-phenyl-2-pentanone (III), b0.3 95-8.degree., n27D 1.5038. Similar results were obtained in other expts. in which the temp. was varied from -80.degree. to 35.degree. and the ratio of propiophenone to III varied considerably. EtMgI (139 ml., 0.793N) added to 16 g. I in 100 ml. Et_2O , the mixt. stirred 24 hrs. at room temp., and the product distd. gave 13.8 g. 1-dimethylamino-1-phenylpropane (IV), b0.3 41-2.degree., n24D 1.5012; picrate m. 167.5-9.0.degree.. The reaction was carried out under several sets of conditions and the following results obtained (mole- equivs. EtMgI , temp., time in hrs., % yield of IV, % recovered I given): 0.5, 20.degree., 14, 36, 45; 1.0, 20.degree., 24, 67, n -; 1.0, 35.degree., 2, 48, -; 1.0, 35.degree., 24, 79, 9; 1.1, 35.degree., 24, 85, 0. Recovered I was characterized by acid catalyzed hydrolysis to BzH. BuMgBr (175 ml., 0.677N) added to 17.25 g. I in 250 ml. Et_2O at 0.degree., after 48 hrs. the mixt. worked up, and the product distd. gave 16.85 g. 1-dimethylamino-1-phenylpentane, b0.95 77-8.degree., n18D 1.5002; picrate m. 159-60.degree.. PhMgBr (from 0.2 mole PhBr) in 200 ml. tetrahydrofuran treated with 0.1 mole I in 100 ml. tetrahydrofuran, the mixt. refluxed 5 hrs., decompd., and evapd. gave 22 g. benzhydryldimethylamine-HCl, m. 217-22.degree.. A sample of this salt was hydrolyzed to liberate the free amine, m. 68-70.degree.; MeI salt m. 172-4.degree.. p-Chlorobenzylmagnesium chloride (from p-chlorobenzyl chloride) treated with I gave 1-dimethylamino-1-phenyl-2-(4-chlorophenyl)ethane, b0.57 129-30.degree., n25.5D 1.5644; picrate m. 1345.5.degree.. tert-Butyl magnesium chloride (195 ml., 0.662 N) dild. with 300 ml. Et_2O , 16 g. I in 50 ml. Et_2O added, after 10 min. 11 g. EtBr added slowly, stirred 1 hr., treated with 100 ml. 2N HCl , the aq. acid layer heated 16 hrs., cooled, extd. with Et_2O , dried, and evapd. gave 1.36 g. benzaldehyde 2,4-dinitrophenylhydrazone. No propiophenone was detected. The aq. acid soln. gave 11.1 g. benzyldimethylamine, b15 66-7.degree., n26D 1.4987; picrate m. 93-4.degree.. LiAlH_4 (7.6 g.) in 200 ml. Et_2O treated with 32 g. I in 100 ml. Et_2O to maintain reflux (1260 ml. H evolved), after refluxing 24 hrs. 50 ml. H_2O added slowly, the ether sepd., dried, evapd., and the residue distd. gave 17.2 g. material, b0.6 80.degree.. The distillate warmed 24 hrs. with 3N HCl and Et_2O gave 14.9 g. 2-dimethylamino-2-phenylethylamine, b0.5 65.degree., n28D 1.5235. I (16 g.) added to 4.6 g. Na in 300 ml. liquid NH_3 , after 10 min. 16 g. EtI in 100 ml. Et_2O added, left 1 hr., decompd., evapd., and the residue distd. gave 7.1 g. benzyldimethylamine, b5 56-8.degree., and 5.05 g. II, b0.4 70-2.degree.; benzyldimethylamine picrate m. 93-4.degree.. In another

expt., in which no EtI was used, was obtained 62% benzyldimethylamine. 2-Morpholino-2-phenylacetonitrile (V) (0.1 mole) in Et₂O stirred 16 hrs. with 0.3 mole PhCH₂MgCl and the product crystd. gave 20 g. 1-morpholino-1,3-diphenyl-2-propanone, m. 55-60.degree.; HCl salt m. 204-6.degree.. KNH₂ (0.2 mole) in 500 ml. liquid NH₃ treated 4 hrs. with 37.6 g. II, the product treated with 10.6 g. NH₄Cl, evapd., and the product collected gave 22.6 g. 2-dimethylamino-2-phenylbutyramidine (VI), m. 126-7.degree. (C₆H₆-hexane). Cyclization was effected using 3 g. acetylacetone and 1 g. anhyd. K₂CO₃ to 6.1 g. VI in 50 ml. alc., refluxing 16 hrs., pouring into 400 ml. H₂O, and crystg. to give 2.4 g. 2-(1-phenyl-1-dimethylaminopropyl)-4,6-dimethylpyrimidine, m. 223-5.degree. (MeOH). When II was treated with LiNH₂ no amidine was isolated and 91% II was recovered. BuLi (125 ml. 1.64N) treated dropwise with 36.2 g. II in 150 ml. Et₂O, the soln. left overnight, cooled, treated with H₂O, extd. with Et₂O, and the residue distd. gave 26 g. 3-phenyl-3-dimethylamino-4-octane ketimine (VII), b_{0.27} 114.degree., n_{24D} 1.5218. VII (5.2 g.) heated 20 hrs. with 5% HCl at 50.degree. gave 4.4 g. 3-phenyl-3-dimethylamino-4-octanone, b_{0.3} 104-5.degree., n_{22D} 1.5132. PhLi (500 ml. 0.48 N) refluxed 3 hrs. with 45 g. II in 100 ml. Et₂O, left overnight, and the product distd. gave 44.8 g. 2-dimethylamino-1,2-diphenyl-1-butanone ketimine (VIII), b_{0.3} 134-4.degree., m. 76.58.0.degree.. VIII (10 g.) hydrolyzed 16 hrs. with 5% HCl gave 93% 2-dimethylamino-1,2-diphenyl-1-butanone, b_{0.25} 143-4.degree., n_{26D} 1.5784. LiAlH₄ (5.9 g.) in 200 ml. Et₂O treated dropwise while refluxing with 28.2 g. II in 75 ml. Et₂O, stirred 7 hrs., and the mixt. worked up gave 22 g. 1-dimethylamino-1-phenylpropane, b_{0.7} 43-4.degree., n_{23.5D} 1.5010; picrate m. 167.5-9.0.degree.. Na (9.2 g.) in 500 ml. liquid NH₃ treated with 27.6 g. II, the soln. treated with 100 ml. Me₃COH, evapd., the residue treated with 100 ml. H₂O and 110 ml. concd. HCl, evapd., cooled, the acid soln. made alk., the mixt. extd. with Et₂O, dried, the solvent removed, and the residue distd. gave 28.9 g. IV.

L9 ANSWER 45 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1962:31205 CAPLUS

DN 56:31205

OREF 56:5877f-h

TI A novel type of antioxidant related to polyporic acid

AU Bennett, G. J.; Uri, N.

CS Ministry Agr., Fisheries, and Food, Aberdeen, UK

SO Nature (London, United Kingdom) (1961), 192, 354-5

CODEN: NATUAS; ISSN: 0028-0836

DT Journal

LA Unavailable

AB Compds. related to polyporic acid, 2,5-dihydroxy-3,6-diphenylbenzophenone, contg. hydroxy groups in one of phenyl radicals, proved to be very active antioxidants. The reaction of 2,5-dichlorobenzoquinone with the appropriate N-nitrosoacetanilide gave the 3-aryl deriv., which was treated with diazotized 3,4,5-trimethoxyaniline. Hydrolysis of the product then demethylation with HBr-HOAc gave the pentahydroxy quinones.

L9 ANSWER 46 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1961:75946 CAPLUS

DN 55:75946

OREF 55:14375i,14376a-c

TI The effect of changing reagent upon stereoselectivity

AU Stocker, Jack H.; Sidisunthorn, Padet; Benjamin, Ben M.; Collins, Clair J.

CS Oak Ridge Natl. Lab., Oak Ridge, TN

SO Journal of the American Chemical Society (1960), 82, 3913-18

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB Oxo compds., R1R2CHCOR3, R1R2C(OH)COR3, or R1COCOR2, reacted stereoselectively with PhLi, MeLi, Grignard compds., or LiAlH4 to give alcs. with a new asym. center where the ratios threo-erythro or meso-dl were either below or above 1. The reaction of LiAlH4 with 4-methylbenzoin showed only a small stereoselectivity (threo-erythro 1:5.5) as compared with the reaction of PhMgBr with the same compd. (threo-erythro 64:1). The dl-meso ratio was >1 when either PhLi or PhMgI was employed and <1 when PhMgBr or PhMgCl was employed in the addns. of these reagents to biacetyl or phenylacetoin. The ratios of the diastereomers were detd. with the C14-diln. method (CA 46, 4383i; 50, 12884g; 51, 1906b). 1,2-Diphenyl-2-(p-tolyl)ethanol (I) was prepd. by reducing 2.5 g. p-tolyldeoxybenzoin in dry Et2O with 0.3 g. LiAlH4 in Et2O. The .alpha.-form (m. 103-4.degree.; acetate m. 107-8.degree.) and the .beta.-form (m. 85-6.degree.; acetate m. 119-20.degree.) of I were sepd. by fractional crystn. from ligroine.

L9 ANSWER 47 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1961:37841 CAPLUS

DN 55:37841

OREF 55:7328f-i,7329a-c

TI Action of Grignard reagents. XX. Action of organomagnesium compounds and of **lithium** aluminum hydride on 3-substituted 3,4-dihydro-4-oxo-1,2,3-benzotriazines

AU Mustafa, Ahmed; Asker, Wafia; Fleifel, Abdallah M.; Khattab, Samir A.; Sherif, Sayed

CS Univ. Cairo, Giza

SO Journal of Organic Chemistry (1960), 25, 1501-3

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA Unavailable

GI For diagram(s), see printed CA Issue.

AB cf. CA 50, 8610b; 54, 24773e. Treatment of C6H4N:N.NR.CO (I) with R'MgX or treatment of the corresponding o-MeO2CC6H4N:NNHR (II) with the same reagent gave the carbinols, o-HOCR2'C6H4N:NNHR (III). PhMgBr (0.9 g. Mg, 9 g. PhBr) in 50 ml. dry Et2O and 1 g. I (R = Ph) or II (R = Ph) heated 3 hrs. on a steam bath and the mixt. kept overnight at 25.degree., and hydrolyzed gave the corresponding III [R, R', % yield from I and II, resp., m.p. (solvent) and color with H2SO4 given]: Ph, Ph, 60, 80, 179-80.degree. (alc.), red; p-MeC6H4, Ph, 85, 87, 154.degree. (alc.), red; p-MeOC6H4, Ph, 87, 90, 132-3.degree. (C6H6-ligroine), red; o-MeOC6H4, Ph, 70, 75, 166.degree. (decompn.) (ligroine b. 90-120.degree.), dark brown; p-BrC6H4, Ph, 85, 90, 130.degree. (C6H6-ligroine), red; p-ClC6H4, Ph, 75, 80, 147.degree. (decompn.) (ligroine), yellowish brown; m-ClC6H4, Ph, 65, 70, 181.degree. (decompn.) (ligroine), dark red; Ph, Me, 72, 80, 140.degree. (alc.), red; p-MeC6H4, Me, 75, 80, 144-5.degree. (ligroine), red; p-MeOC6H4, Me, 65, 70, 125-6.degree. (C6H6-ligroine), red; p-BrC6H4, Me, 80, 90, 135.degree. (C6H6-ligroine), red; p-ClC6H4, Me, 65, 70, 126.degree. (ligroine), yellow. For further study of the effect of the acyl substituted group attached to heterocyclic N compds. with respect to Grignard reagents, the action of PhMgBr on I (R = Ac, Bz) (IV, V) was investigated. V (1 g.) in 40 ml. dry C6H6 treated as above with PhMgBr and the Et2O-C6H6 soln. evapd., the solid residue extd. with 25 ml. cold C6H6 and the insol. residue recrystd. from hot alc. gave 0.42 g. I (R = H) (VI), m. 212-13.degree.. Conc'n. of the C6H6 ext. and cooling gave 0.39 g. colorless Ph3COH. Similarly, 1 g. IV in 40 ml. C6H6 treated with PhMgBr

in Et₂O gave 0.72 g. VI and 0.23 g. Ph₂MeCOH, m. 82-3.degree., red with H₂SO₄. LiAlH₄ (0.5 g.) in 50 ml. Et₂O treated after 15 min. with 1 g. V in 30 ml. C₆H₆ and the mixt. refluxed 3 hrs., kept overnight at 25.degree. and hydrolyzed with cold dil. HCl gave 0.42 g. VI and PhCH₂OH. The stability of VI to LiAlH₄ paralleled its behavior toward PhMgBr and III (R = p-MeC₆H₄, R' = Ph) (VII) was similarly found to be stable. The stability of the N:N system in VII was also observed when 1 g. II (R = p-MeC₆H₄) in 30 ml. C₆H₆ was treated as above with 0.5 g. LiAlH₄ in 50 ml. Et₂O to give colorless o-(p-MeC₆H₄NHN:N)C₆H₄CH₂OH, identified as 0.24 g. of the corresponding urethan, m. 119-20.degree.. V (1 g.) and 2 g. AlCl₃ heated 1 hr. at 120-5.degree. (oil bath) and the cooled mixt. decompd. with 100 ml. ice H₂O contg. 5 ml. concd. HCl, the solid washed and dried and recrystd. from alc. gave VI, similarly eliminating the acyl group.

L9 ANSWER 48 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1960:128408 CAPLUS

DN 54:128408

OREF 54:24479h-i,24480a-b

TI Organo-tin compounds. XII. The action of **lithium** aluminum hydride and Grignard reagents on organo-tin nitriles and esters

AU van der Kerk, G. J. M.; Noltes, J. G.

CS Org. Chem. Inst. T.N.O, Utrecht, Neth.

SO Journal of Applied Chemistry (1959), 9, 176-9

CODEN: JACHAU; ISSN: 0021-8871

DT Journal

LA Unavailable

AB cf. CA 54, 1379a. The redn. by LiAlH₄ in ether of Pr₃Sn(CH₂)₂ CN (I) to (3-aminopropyl)tripropyltin, b₁₂ 140-5.degree., and of Bu₃Sn(CH₂)₂CO₂Me, Ph₃Sn(CH₂)₃CO₂Me, and Ph₃Sn(CH₂)₄CO₂Me to (3-hydroxypropyl)tributyltin, b₁₂ 117-19.degree., (4-hydroxybutyl)triphenyltin, m. 75-6.degree., and (5-hydroxypentyl)triphenyltin, m. 64-6.degree., resp., occurred without Sn-C bond cleavage in 34-77% yields. MeMgI with I gave 49% of (3-oxobutyl)tripropyltin (I), b_{0.2} 84-9.degree. (2,4-dinitrophenylhydrazones m. 48-50.degree.; oxime b_{0.2} 110.degree.; semicarbazones m. 78-80.degree.), and 11% of Pr₃MeSn, but an 89% yield of (3-hydroxy-3-methylbutyl)tributyltin, b_{0.7} 133-8.degree.. No Bu₃MeSn was obtained from Bu₃Sn(CH₂)₂CO₂Me. Similarly prepd. from PhMgBr and nitriles were (2-benzoyl-ethyl)triphenyltin, m. 79-80.degree. (2,4-dinitrophenylhydrazones m. 174-6.degree.), and (2-benzoyl-ethyl)tripropyltin, b_{0.05-0.30} 158-65.degree. (2,4-dinitrophenylhydrazones m. 106.degree.).

L9 ANSWER 49 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1959:16717 CAPLUS

DN 53:16717

OREF 53:3041c-i,3042a-i,3043a-e

TI Unsaturated aldehydes and ketones. II. A new reaction of **magnesium** - and **lithium**-organic compounds

AU Jutz, Christian

CS Tech. Hochschule, Munich, Germany

SO Chemische Berichte (1958), 91, 1867-81

CODEN: CHBEAM; ISSN: 0009-2940

DT Journal

LA Unavailable

AB cf. C.A. 52, 17266a. MePhN(CH:CH)nCHO (I) (n = 1, 2) and MePhNCH:CHCOR (II) (R = alkyl or aryl) with Mg- and Li-org. compds. yield aldehydes and ketones of the type R(CH:CH)nCHO (III) (n = 1, 2) (R = aryl, aralkenyl, alkenyl, alkyl, alkynyl). The appropriate Grignard soln. filtered through

glass wool added dropwise to the I or II in C₆H₆-Et₂O, the mixt. stirred 0.5 hr. without cooling, treated dropwise with N H₂SO₄, the aq. layer extd. with Et₂O, and the org. solns. combined gave the corresponding III; the aromatic aldehydes were purified through the NaHSO₃ adducts and regenerated with Na₂CO₃ or K₂CO₃. HC.tplbond.CCHO in EtOH treated with PhNHMe yielded MePhNCH:CHCHO (IV); MePhCH:CHAc (V), b_{0.5} 135.degree. to b_{0.1} 118.degree., was obtained similarly from HC.tplbond.CAc and PhNHMe. The Grignard reagent from 7.8 g. PhBr, 2 g. Mg, and 15 cc. Et₂O treated with 8.9 g. IV in 50 cc. C₆H₆ and 50 cc. Et₂O yielded 80% PhCH:CHCHO (VI); phenylhydrazone, lemon-yellow needles, m. 167.5-68.degree. (decompn.); 2,4-dinitrophenylhydrazone, brick-red crystals, m. 253-4.degree. (pyridine-EtOH). PhLi (from 55 g. PhBr and 5.5 g. Li in 250 cc. Et₂O) (22 cc.) added dropwise with 4 g. IV in 25 cc. C₆H₆ and 25 cc. Et₂O gave 95% VI. The Grignard reagent from 17.2 g. p-MeC₆H₄Br, 3.5 g. Mg, and 60 cc. Et₂O treated with 18 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O and the crude product distd. and purified through the NaHSO₃ adduct gave 11.5 g. p-MeCH:CHCHO, leaflets, m. 42-3.degree. (aq. MeOH). p-MeOC₆H₄Br (9.5 g.) treated with 2 g. Mg in 10 cc. tetrahydrofuran and 30 cc. Et₂O, the mixt. treated with 10 g. IV in 50 cc. C₆H₆ and 70 cc. Et₂O, the crude product purified through the NaHSO₃ adduct, sublimed, and recrystd. from hexane yielded 4.5 g. p-MeOC₆H₄CH:CHCHO, leaflets, m. 59.degree.. The Grignard reagent from 12 g. p-PhC₆H₄Br, 2 g. Mg, 30 cc. tetrahydrofuran, and 10 cc. Et₂O treated with 10 g. IV in 50 cc. C₆H₆ and 70 cc. Et₂O yielded 6.5 g. p-PhC₆H₄CH:CHCHO, pale yellow needles, m. 120-1.degree. (hexane and MeOH). Ph₂C:CHBr (VII) (8 g.) treated with 1.5 g. Mg in 20 cc. tetrahydrofuran, the resulting deep green Grignard soln. treated with 6 g. I in 30 cc. C₆H₆ and 40 cc. Et₂O, and worked up in the usual manner yielded 4-5 g. Ph₂C:CHCH:CHCHO, pale yellow needles, m. 69.5-70.degree. (aq. MeOH); 2,4-dinitrophenylhydrazone, deep violet-red needles, m. 249-51.degree. (PhMe-EtOH). PhCH:CHBr (9.5 g.) treated with 2 g. Mg and 20 cc. tetrahydrofuran and the mixt. treated with 10 g. IV yielded 5 g. Ph(CH:CH)₂CHO (VIII), m. about 16.degree.; p-nitrophenylhydrazone, red-golden leaflets, m. 206-7.degree. (MeOH); phenylhydrazone, yellow needles, m. 178-9.degree. (decompn.); anil, yellow needles, m. 108-10.degree. (decompn.). For purification the crude VIII in Et₂O was shaken with aq. NaHSO₃ to yield the adduct; the Et₂O layer worked up gave in several runs up to 2 g. (PhCH:CH)₂, leaflets, m. 152.degree.. The Grignard reagent from 11.2 g. EtBr, 3 g. Mg, and 15 cc. Et₂O treated with 10.2 g. PhC.tplbond.CH in 50 cc. C₆H₆, refluxed 2 hrs., treated with 18 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O, concd., the concentrate shaken with 20 cc. aq. NaHSO₃, and the adduct decompd. and processed in the usual manner yielded PhC.tplbond.CCH:CHCHO (IX), b_{0.2} about 110.degree.; p-nitrophenylhydrazone, yellow needles, m. 205.degree. (decompn.) (MeOH). EtBr (5.6 g.) treated with 2 g. Mg and 10 cc. Et₂O, the resulting EtMgBr treated with 6.6 g. p-MeOC₆H₄C.tplbond.CH in 25 cc. C₆H₆, heated to boiling, distd. to remove 10-15 cc. solvent mixt., the mixt. refluxed 2 hrs. and treated with 10 g. IV in 40 cc. C₆H₆ and 40 cc. Et₂O, and the product purified through the NaHSO₃ adduct yielded about 2.8-3.5 g. p-MeO deriv. of IX, needles or leaflets, m. 49-50.degree. (hexane and aq. MeOH); phenylhydrazone, pale yellow, light-sensitive leaflets, m. 129-30.degree. p-nitrophenylhydrazone, orange-red crystals, m. 173-4.degree. (decompn.) (C₆H₆-ligroine). The Grignard reagent from 20.7 g. 1-ClO₂H₇Br, 3 g. Mg, 10 cc. tetrahydrofuran, and 20 cc. Et₂O treated with 18 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O, and the crude product purified gave 11-12 g. 1-ClO₂H₇CH:CHCHO (X), pale yellow needles, m. 47-8.degree. (hexane), b_{0.4} about 160-70.degree.; oxime, needles, m. 165-6.degree. (decompn.); phenylhydrazone, yellow leaflets, m. 125-6.degree. (decompn.) (hexane and aq. MeOH). The Grignard reagent from 10.4 g. 2-ClO₂H₇Br, 2 g. Mg, 10 cc.

tetrahydrofuran, and 10 cc. Et₂O with 10 g. IV in 50 cc. C₆H₆ and 50 cc. Et₂O yielded 6 g. 2-isomer of X, needles, m. 125.degree. (hexane and MeOH); 2,4-dinitrophenylhydrazone, red crystals, m. 254-5.degree. (decompn.) (PhMe). The Grignard reagent from 8.2 g. .alpha.-bromothiophene, 2 g. Mg, 15 cc. tetrahydrofuran, and 10 cc. Et₂O yielded with 10 g. IV in 50 cc. C₆H₆ and 50 cc. Et₂O 4-4.5 g. 1-(2-thienyl)-1-propen-3-al, b_{2.0} 101-2.degree., n_{20D} 1.68, turning dark brown and forming a resin in a few days; 2,4-dinitrophenylhydrazone, deep red leaflets and prisms, m. 249.degree. (decompn.) (glacial AcOH); semicarbazone, m. 219-21.degree. (decompn.) (EtOH). The Grignard reagent from 4 g. PhBr, 1 g. Mg, and 10 cc. Et₂O treated with 5.2 g. MePhN(CH:CH)2CHO (XI) in 80 cc. C₆H₆ and 50 cc. Et₂O yielded through the NaHSO₃ adduct 2 g. VIII, pale yellow oil. The Grignard reagent from 8.7 g. p-MeC₆H₄Br, 2 g. Mg, and 15 cc. Et₂O with 10 g. XI in 150 cc. C₆H₆ and 50 cc. Et₂O gave 3-5 g. p-Me deriv. of VIII, pale yellow leaflets, m. 102-3.degree. (hexane). The Grignard reagent from 4.8 g. p-MeOC₆H₄Br, 1.5 g. Mg, 20 cc. tetrahydrofuran, and 100 cc. Et₂O with 5.2 g. XI in 80 cc. C₆H₆ and 50 cc. Et₂O yielded 1.8-2.2 g. p-MeO deriv. of VIII, pale yellow needles or leaflets, m. 77-8.degree. (MeOH), intensely yellow in MeOH soln. The Grignard reagent from 6.5 g. VII, 1.5 g. Mg, and 20 cc. tetrahydrofuran treated with 5.2 g. XI in 80 cc. C₆H₆ and 50 cc. Et₂O yielded 2-2.5 g. Ph₂C:CH(CH:CH)2CHO, lemon-yellow needles, m. 101.degree. (aq. MeOH). The Grignard reagent from 15.8 g. PhBr, 3 g. Mg, and 30 cc. Et₂O treated with 18 g. V in 150 cc. Et₂O and distd. gave 8.7 g. PhCH:CHAc, b₁₆ 139-41.degree., prisms, m. 41.degree. (hexane and aq. MeOH); 2,4-dinitrophenylhydrazone, brick-red leaflets and needles, m. 220-2.degree. (PhMe). The Grignard reagent from 9.2 g. PhCH:CHCHO, 2 g. Mg, and 20 cc. tetrahydrofuran treated with 10 g. V in 150 cc. Et₂O, the crude product distd., the distillate (7 g.), b_{0.5} 135-40.degree. to b_{1.2} 155.degree., dissolved in 15 cc. MeOH, and the soln. dild. gradually with H₂O gave Ph(CH:CH)2CHO, pale yellow needles, m. 66-7.degree. (aq. MeOH and hexane); semicarbazone, pale yellow, light-sensitive needles, m. 192-4.degree. (decompn.) (MeOH and C₆H₆). The Grignard reagent from 11.2 g. EtBr, 3 g. Mg, and 15 cc. Et₂O treated dropwise with 10.2 g. PhC.tplbond.CH in 50 cc. C₆H₆, refluxed 12 hrs., treated with 19 g. V in 180 cc. Et₂O, worked up, and the crude oily product distd. yielded 14.6 g. PhC.tplbond.CCH:CHAc (XI), needles, m. 42-3.degree., b_{0.01} 96.degree.. XI (2.420 g.) hydrogenated in 75 cc. MeOH over 80 mg. PtO₂ during 0.75 hr., filtered, and evapd. in vacuo yielded 2.25 g. Ph(CH₂)2Ac, b₁₀ 97-7.5.degree., n_{18D} 1.5058; semicarbazone, needles and leaflets, m. 143-4.degree. (aq. MeOH and hexane). MeBr passed into 30 cc. Et₂O contg. 1.2 g. Mg until all Mg had been dissolved, the soln. refluxed 0.5 hr., treated with 9 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O, the Et₂O soln. of the product treated with 5 g. H₂NCONHNH₂.HCl and 7.5 g. NaOAc in concd. aq. soln., the org. solvents distd. in vacuo, and the residue dild. with H₂O and filtered yielded a small amt. H₂NCONHN:CHCH:CH₂, m. 198-201.degree. (decompn.). The Grignard reagent from 5.5 g. EtBr, 2 g. Mg, and 20 cc. Et₂O treated with 9 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O gave 0.6-0.7 g. EtCH:CHCHO, b₈₀ 62-4.degree., n_{22D} 1.4469; semicarbazone, leaflets and needles, m. 175-7.degree. (decompn.) (aq. MeOH). The Grignard reagent from 6.2 g. iso-PrBr, 2 g. Mg, and 20 cc. Et₂O treated with 9 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O gave 1.4-1.5 iso-PrCH:CHCHO, b₄₈ 59-60.degree., n_{24D} 1.4396; semicarbazone, leaflets, m. 174-5.degree. (decompn.) (MeOH). The Grignard reagent from 12 g. Me₃CCl, 3 g. Mg, 30 cc. tetrahydrofuran, and 20 cc. Et₂O treated with 18 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O yielded 2.8 g. Me₃CCH:CHCHO, b₅₀ 72-3.degree., n_{24D} 1.4387; 2,4-dinitrophenylhydrazone, red leaflets, m. 229.degree. (C₆H₆-EtOH); semicarbazone, leaflets, m. 169-70.degree. (MeOH). The Grignard reagent

from 6.2 g. PrBr, 2 g. Mg, and 20 cc. Et₂O treated with 9 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O gave 1.5-2.0 g. PrCH:CHCHO, b₅₀ 70-2.degree., n_{24D} 1.4441; semicarbazone, leaflets, m. 169-71.degree. (decompn.) (MeOH); p-nitrophenylhydrazone, golden-orange leaflets, m. 134-5.5.degree. (MeOH). The Grignard reagent from 6.9 g. iso-BuBr, 2 g. Mg, and 20 cc. Et₂O with 9 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O gave 1.7-2.2 g. iso-BuCH:CHCHO, b₅₀ 81-3.degree., n_{23.5D} 1.4412; semicarbazone, m. 181-3.degree. (decompn.) (MeOH); 2,4-dinitrophenylhydrazone, brick-red leaflets, m. 149-50.degree. (decompn.) (dioxane). The Grignard reagent from 6.9 g. BuBr, 2 g. Mg, and 20 cc. Et₂O with 9 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O gave 1.7 g. BuCH:CHCHO, b₅₀ 90-1.degree., n_{19D} 1.4486; semicarbazone, leaflets, m. 167.degree. (decompn.) (MeOH); p-nitrophenylhydrazone, golden-orange leaflets, m. 118-19.degree. (MeOH). The Grignard reagent from 7.6 g. AmBr with 9 g. IV gave in the usual manner 2.2-2.5 g. AmCH:CHCHO, b₉ 69-71.degree., n_{20D} 1.4470. C₇H₁₅MgBr from 9 g. C₇H₁₅Br and 9 g. IV yielded similarly 2.7-3.2 g. C₇H₁₅CH:CHCHO, b_{1.5} 72-3.degree., n_{20D} 1.4470; semicarbazone, leaflets, m. 163-5.degree. (decompn.) (C₆H₆-ligroine); 2,4-dinitrophenylhydrazone, brick-red leaflets, m. 124-5.degree. (ligroine, b. 80-120.degree.). EtMgBr from 5.7 g. EtBr in 10 cc. Et₂O treated dropwise with 4.1 g. BuC.tplbond.CH in 50 cc. C₆H₆, refluxed 2 hrs., treated with 9 g. IV in 80 cc. C₆H₆ and 80 cc. Et₂O, and the crude product distd. yielded about 5-5.5 g. BuC.tplbond.CHCH:CHCHO, b₁₀ 94-5.degree., n_{23.5D} 1.5110, which turned rapidly yellow-orange and resinified in air and light; semicarbazone, m. 192-4.degree. (decompn.) (MeOH). BuMgBr (13.8 g.) treated with 3 g. Mg and 40 cc. Et₂O and the BuMgBr treated with 19 g. V in 150 cc. Et₂O yielded 6.8 g. BuCH:CHAc, b₁₁ 69-70.degree., n_{16D} 1.4495; 2,4-dinitrophenylhydrazone, light brick-red needles, m. 94-5.degree. (MeOH); 2,4-nitrophenylhydrazone, orange-yellow prisms, m. 109-10.degree. (aq. MeOH and hexane). EtMgBr from 11 g. EtBr in 15 cc. Et₂O treated with 8.2 g. BuC.tplbond.CH in 75 cc. C₆H₆, refluxed 2 hrs., treated with 18 g. V in 150 cc. Et₂O, and worked up yielded 10-11 g. BuC.tplbond.CCH:CHAc (XII), b_{1.0} 70.degree. to b_{3.0} 90.degree., n_{17D} 1.5050; semicarbazone, m. 122-3.degree. (decompn.) (MeOH); p-nitrophenylhydrazone, orange needles, m. 128-9.degree. (C₆H₆-hexane). XII (3.757 g.) in 75 cc. MeOH hydrogenated 0.75 hr. over 80 mg. PtO₂ gave 3.4 g. C₈H₁₇Ac, b_{1.4} 62-3.degree., n_{16.5D} 1.4276; 2,4-dinitrophenylhydrazone, dark yellow needles, m. 73-4.degree. (MeOH); p-nitrophenylhydrazone, yellow prisms, m. 97-8.degree. (aq. MeOH); semicarbazone, leaflets, m. 125-6.degree. (MeOH).

L9 ANSWER 50 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1959:7033 CAPLUS

DN 53:7033

OREF 53:1327c-i,1328a-d

TI Reactions of some ester alkaloids and related synthetic compounds with the **phenyl** Grignard reagent

AU Zaugg, Harold E.; Michaels, Raymond J.; DeNet, Robert W.

CS Abbott Labs., N. Chicago

SO Journal of Organic Chemistry (1958), 23, 847-51

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA Unavailable

AB Reactions of arecoline (I), cocaine (II), anhydroecgonine Me ester (III), and pilocarpine (IV) with PhMgBr (V) were carried out and the products further transformed. In addn., the 2 stereoisomeric 3-acetyl-1,4-dimethyl-4-hydroxypiperidines (VI) and 3 simple imidazole esters, 4-carbomethoxyimidazole (VII), 4-carbethoxy-5-methylimidazole (VIII), and 4-carbomethoxy-2-methylimidazole (IX) were treated similarly. The

stereochem. of several of the products was discussed and their preliminary pharmacol. assay is reported. V (43 g.) in 300 ml. Et₂O treated portionwise with 15 g. I. HBr, the mixt. refluxed 2 hrs., left overnight, cooled, and treated dropwise with aq. NH₄Cl, the Et₂O layer sepd., extd. with dil. HCl, the acid extd. cooled, made alk., extd. with Et₂O, dried, and distd. gave 6 g. cis-ketone (X), m. 115-16.degree.; MeI deriv., m. 217-18.degree. (decompn.) (aq. alc.). X (10 g.) and 60 ml. 48% aq. HBr refluxed overnight, poured into H₂O, made alk., the oil taken up in Et₂O, and the soln. distd. gave 7.2 g. trans-X (XI), m. 62-3.degree. (hexane): HCl salt, m. 230-1.degree. (decompn.) (alc.-Et₂O). MeMgI (from 5.7 g. MeI and 1 g. Mg in 50 ml. Et₂O) treated rapidly with 7 g. X in 50 ml. C₆H₆, refluxed 2 hrs., and isolated gave 5.3 g. cis-N-methyl-3-(.alpha.-hydroxy-.alpha.-phenethyl)-4-phenylpiperidine (XII), m. 86-7.degree. (hexane). Similarly, XI gave 84% trans-isomer (XIII), m. 142-3.degree. (cyclohexane). V (0.7 mole) in 600 ml. Et₂O refluxed 18 hrs. with 0.088 mole II in 500 ml. Et₂O and worked up gave 15.4 g. glycol (XIV), m. 185-6.degree. (alc.), [.alpha.]_D²⁵ -23.5.degree. (0.04 g./ml. CHCl₃), pK_a 7.49. XIV in MeCOEt treated 1 hr. at 40.degree. with a slight excess of Me₂SO₄, Et₂O added, and cooled gave the quaternary methomethyl sulfate. XIV (8.4 g.), 18 ml. concd. HCl, and 60 ml. AcOH refluxed 2 hrs., concd. to dryness, the residue dissolved in H₂O, made strongly alk., the pptd. oil taken up in Et₂O, dried, and concd. gave 4.5 g. diene (XV), b_{2.5} 201-3.degree., n_D²⁵ 1.6338, [.alpha.]_D³⁰ 548.degree. (c 0.04, CHCl₃), .lambda._D 282 m.mu., .epsilon._D 17,800; MeI deriv., m. 281-2.degree. (alc.), [.alpha.]_D²⁸ 450.degree. (c 0.004, H₂O). Anhydroecgonine-HCl (13 g.) 6.5 g. Amberlite XE-156 resin, 50 ml. MeOH, and 175 ml. C₂H₄Cl₂ refluxed 21 hrs., the mixt. filtered, the filtrate concd. to dryness, the residual glassy HCl salt treated with sufficient satd. K₂CO₃ to produce a fluid mixt., treated with solid anhyd. K₂CO₃ to further salt out the base, the product taken up in Et₂O, and isolated gave 7.1 g. III, b₁₀ 124-6.degree., n_D²⁵ 1.5006. PhLi (prepd. by adding dropwise 42.4 g. PhBr in 200 ml. Et₂O to 3.6 g. Li in 100 ml. Et₂O and refluxing 2 hrs.) heated and stirred 1 hr. with 8.1 g. III in 100 ml. dry Et₂O, cooled, decompd., and the solids collected gave 7.7 g. diphenylcarbinol (XVI), m. 209-10.degree. (aq. MeOH), [.alpha.]_D²⁵ -52.degree. (c 0.011, CHCl₃), the infrared spectrum showed the typical OH but no CO absorption. XVI (1.5 g.) with 0.6 g. Me₂SO₄ gave 1.1 g. methomethyl sulfate, m. 186-7.degree.. Dehydration of 1.5 g. XVI with 4 ml. concd. HCl and 12 ml. AcOH gave crude XV, converted directly to the methiodide. Further proof of XV prepd. by the above two methods comes from the fact that their infrared spectra in CHCl₃ were qualitatively identical and their specific rotations differed by only 2%. IV (10 g.) in dry C₆H₆ similarly refluxed overnight with V and isolated gave a mixt. of .alpha.- and .beta.-glycols (XVII); from the .alpha.-form of IV, m. 130.degree., was obtained 45% .alpha.-form of XVII, m. 177-8.degree. (EtOAc). From the .beta.-form of IV was obtained 11% .beta.-form of XVII, m. 180-1.degree. (decompn.) (EtOAc). An attempt to increase the yield of the .beta.-glycol of XVII by using PhMe instead of C₆H₆ in the Grignard reaction gave the same results. The lower reactivity of the .beta.-form as compared to the .alpha.-isomer was further indicated by the fact that the initial stage of the Grignard reaction of the .alpha.-form is exothermic. The .beta.-form showed no such evidence of spontaneous reaction. V (from 37.7 g. PhBr) treated portionwise with 15 g. powd. IV.HCl, refluxed overnight, decompd. with satd. aq. NH₄Cl, the free base collected, and recrystd. gave 14.3 g. glycol (XVIII), m. 291-3.degree. (decompn.) (HCONMe); HCl salt. m. 137-9.degree. (decompn.), [.alpha.]_D²⁷ -145.degree. (c 0.008, H₂O). XVIII (3.6 g.) in 30 ml. AcOH contg. 10 ml. concd. HCl refluxed 2 hrs., concd., the residue dissolved in H₂O, the soln. made

alk., extd. with Et₂O, dried, concd., and the oil treated with Et₂O-HCl gave 2 g. tetrahydrofuran compd. (XIX).HCl, m. 254-6.degree. (alc.-Et₂O), [α .]27D 156.degree. (c 0.01, H₂O). IV (54 g.) in 300 ml. Et₂O treated with 250 ml. tetrahydrofuran, the Et₂O removed, the hot Grignard reagent treated with 10 g. VIII, refluxed a few min., most of the solvent removed, Et₂O added to the cold soln., the solid collected, the Et₂O layer sepd., concd., the residue combined with the original filter cake, dissolved in excess HCl, the soln. made alk., and the 11.5 g. of the liberated base again collected gave on recrystn. the corresponding carbinol (XX), m. 186-7.degree. (decompn.) (iso-PrOH). Refluxing 1.5 g. XX, MeCOEt, and excess MeI 4 hrs. gave 0.8 g. quaternary methiodide of the N-Me deriv. of XX, m. 223-4.degree. (decompn.) (alc.). Similarly, addn. of IV to VII gave 81% carbinol, m. 173-4.degree. (decompn.), and reaction of IX with IV led to 78% carbinol, m. 200-1.degree. (decompn.) (alc.).

L9 ANSWER 51 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1957:71408 CAPLUS

DN 51:71408

OREF 51:12873a-f

TI 1,2-Addition of allylmagnesium bromide to N-diphenylmethylenedianiline and structurally related systems

AU Gilman, Henry; Eisch, John

CS Iowa State Coll., Ames

SO Journal of the American Chemical Society (1957), 79, 2150-3

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB Ph₂C:NHPh (I) (43.3 g.) in 100 cc. dry Et₂O treated during 25 min. with 0.215 mole CH₂:CHCH₂MgBr (II) in 190 cc. Et₂O, refluxed 18 hrs. with stirring, and hydrolyzed with 500 cc. satd. aq. NH₄Cl, the Et₂O layer worked up, and the crude product (48.1 g.) recrystd. from 200 cc. 95% EtOH yielded 44.0 g. CH₂:CHCH₂CPh₂NHPh (III), m. 78.5-80.degree.. PrLi (0.097 mole) in 90 cc. Et₂O added over 45 min. to 20.0 g. I in 50 cc. dry Et₂O, the mixt. refluxed 6 hrs., stirred overnight, and treated with H₂O, the org. layer worked up, and the residue (21.2 g.) recrystd. from 100 cc. 95% EtOH yielded 18.0 g. Ph₂PrCNHPh (IV), m. 85-5.5.degree. (from EtOH). III (3.0 g.) in 50 cc. EtOAc hydrogenated over 30 mg. prerduced PtO₂ in 50 cc. 95% EtOH, filtered, concd., and refrigerated gave 2.5 g. IV, m. 83-5.degree.. PhLi (0.144 mole from 0.145 mole PhBr and 2.2 g. Na) in 100 cc. dry Et₂O treated during 50 min. with 15.5 g. PhPrC:NPh (V) in 75 cc. dry Et₂O, stirred 4 hrs., and hydrolyzed, and the crude, somewhat sticky solid (22 g.) recrystd. from 100 cc. 95% EtOH yielded 12.4 g. IV, m. 83-4.degree.. Filtered PrMgBr (0.60 mole) in 600 cc. Et₂O treated during 45 min. with 50.0 g. PhCN, refluxed overnight, poured into 200 cc. 6N H₂SO₄, heated to remove the Et₂O, cooled, and extd. with Et₂O, and the ext. distd. yielded 64.0 g. BzPr, b₁₃ 106.5-107.degree.. PhNH₂ (25 cc.) added to 25.0 g. ZnCl₂.2H₂O in 40 cc. H₂O, 20 cc. EtOH, and 10 cc. concd. HCl, the mixt. stirred overnight and filtered, and the solid residue washed twice with Et₂O and dried yielded 30.0 g. PhNH₂-ZnCl₂ complex (VI). Powd. VI (2 g.) added to 30 cc. PhNH₂ and 30.0 g. BzPr at 100.degree., the mixt. heated during 15 min. slowly to 160.degree., cooled, dild. with 300 cc. CHCl₃, and filtered, and the filtrate worked up yielded 15.8 g. V, b₁₃ 183-5.degree., b_{1.1} 128.degree., n_D²⁵ 1.5926. Fluorenone anil (25.5 g.) in 100 cc. dry Et₂O treated during 20 min. with an equimolar amt. of II in 110 cc. Et₂O and the mixt. stirred 2 hrs. and hydrolyzed with aq. NH₄Cl gave 25.7 g. α -allylfluorenylaniline, long needles, m. 136.5-7.5.degree. (from EtOH with Norit). 6-Phenylphenanthridine (25.5 g.) in 150 cc. dry Et₂O treated during 0.5 hr. with 0.125 mole II in 125

cc. Et₂O, refluxed overnight, cooled, and hydrolyzed, and the crude white product (28.1 g.) repeatedly recrystd. from 95% EtOH yielded 20 g. 6-allyl-6-**phenyl**-5,6-dihydrophenanthridine, platelets, m. 103-4.5.degree.. I (18.0 g.) in 100 cc. dry Et₂O heated 18 hrs. with 0.01 mole MeMgI or PrMgBr in Et₂O gave only about 16-17 g. unchanged I.

L9 ANSWER 52 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1957:46878 CAPLUS

DN 51:46878

OREF 51:8681d-i,8682a-i

TI Chemistry of acetylenic ethers. XIX. The reaction of aldehydes with ethoxyethynylmagnesium bromide

AU Postma, J. C. W.; Arens, J. F.

CS Univ. Groningen, Neth.

SO Rec. trav. chim. (1956), 75, 1385-96

DT Journal

LA English

AB Aldehydes with BrMgC.tplbond.COEt (I) do not yield the expected secondary carbinols. In the case of aromatic aldehydes the products are formed from 2 mols. of the aldehyde and 1 mol. of the acetylenic compd. The structures of these compds. have been established by several transformations and the chemistry of their formation has been studied. Aliphatic aldehydes and I give products derived from 3 mols. of the aldehyde and 1 of the acetylenic compd. I was prepd. by slowly adding 16 g. HC.tplbond.COEt in 150 ml. abs. Et₂O to a stirred soln. of 0.21 mole EtMgBr in 250 ml. Et₂O, when the evolution of C₂H₆ ceased, the mixt. was cooled in ice, treated dropwise with 32 g. BzH in 100 ml. abs. Et₂O, refluxed 10 min., hydrolyzed with 70 g. NH₄Cl in 300 ml. H₂O, and the Et₂O layer sepd., washed with H₂O, dried with Na₂SO₄, and evapd. in vacuo under N at 30.degree.; the resulting crystals, filtered and washed with ice-cold EtOH, yielded 29-35% PhCH(OH)C(:CHPh)CO₂Et (II), m. 90-1.degree. (from EtOH); a better yield (51%) was obtained by hydrolyzing the reaction mixt. with 150 ml. 2N H₂SO₄ instead of NH₄Cl. BzH and LiC.tplbond.COEt gave PhCH(OH)C.tplbond.COEt (III). III (4.3 g.) in 20 ml. Et₂O and 0.03 mole EtMgBr in 25 ml. Et₂O refluxed until the evolution of C₂H₆ ceased, 2.5 g. BzH in 20 ml. Et₂O added, the mixt. refluxed 15 min., hydrolyzed with 10 g. NH₄Cl in 50 ml. H₂O, the Et₂O layer washed with H₂O, dried with Na₂SO₄, evapd. in vacuo and the resulting solid filtered off and washed with ice-cold EtOH yielded 3.5 g. II, m. 91-2.degree. (from EtOH). II (7 g.) and 0.5 g. p-MeC₆H₄SO₃H in 100 ml. PhMe refluxed 2 hrs., the cooled mixt. washed with Na₂CO₃ soln. and H₂O, dried over Na₂SO₄, evapd. in vacuo, and the resulting oil crystd. yielded 5.2 g. Et 3-**phenyl**-2-indenecarboxylate (IV), m. 90.5-1.5.degree. (from petr. ether). IV (3 g.) and 40 ml. aq. HI (azeotrope, b. 125-7.degree.) refluxed 1 hr., cooled, the ppt. filtered off, washed with 50% aq. alc., and the remaining crystals dissolved in 2N NaOH, repptd. with HCl, sublimed in vacuo, and recrystd. from AcOH yielded 1.7 g. 3-**phenyl**-2-indenecarboxylic acid (V), yellow needles, m. 216-17.degree., also formed by sapon. of IV with hot KOH in MeOH. II (1 g.) refluxed with 20 ml. 2N KOH in MeOH, the soln. evapd. in vacuo, the residue dissolved in H₂O, the soln. extd. with Et₂O to remove unsapond. material, the aq. layer acidified, and the ppt. filtered off and crystd. from dil. AcOH yielded 700 mg. PhCH(OH)C(:CHPh)CO₂H, colorless crystals, m. 158.5-9.0.degree. (decompn.). II (1 g.) in 100 ml. dry Me₂CO treated with 2.5 g. KMnO₄ in small portions at 30.degree., the soln. stirred 16 hrs. at room temp.; refluxed 3 addnl. hrs., the brown ppt. filtered off, washed with dry Me₂CO, the solid suspended in H₂O, and SO₂ passed into the soln. yielded 76% BzOH. V similarly oxidized yielded 60% o-BzC₆H₄CO₂H, m. 128-9.degree.. II (1 g.)

in 30 ml. Me₂CO at 0-5.degree. treated dropwise with 0.35 g. CrO₃ in 0.3 ml. concd. H₂SO₄ and 3 ml. H₂O, stirring continued 1.5 hrs., 200 ml. H₂O added, and the ppt. filtered off and crystd. from Et₂O yielded 0.8 g. PhCH:CBzCO₂Et, m. 95.0-6.5.degree.. V (200 mg.) in 10 ml. 2N aq. NaOH and 1 g. powd. 8% Na-Hg refluxed 1 hr., filtered, acidified, and the ppt. filtered off, washed with H₂O, dried, twice crystd. from 70% EtOH yielded 155 mg. 3-phenyl-2-hydrindenecarboxylic acid, m. 162-3.degree.. V (0.2 g.) in 5 ml. 2N aq. NaOH and 0.12 g. p-ONC₆H₄NMe₂, boiled 1 min., cooled, acidified, the brown ppt. filtered off, decompd. with 10 ml. 2N HCl, and the ppt. recrystd. from dil. alc. and AcOH yielded 96 mg. 3-phenylindenone-2-carboxylic acid, m. 155.5-6.5.degree.. HC.tplbond.COEt (7 g.) in 25 ml. abs. Et₂O treated with 0.1 mole I in 60 ml. Et₂O, cooled in ice after the evolution of C₂H₆ was complete, 20 g. p-MeC₆H₄CHO in 50 ml. abs. Et₂O added during 15 min., the soln. hydrolyzed with 30 g. NH₄Cl in 150 ml. H₂O, the Et₂O layer washed with H₂O, dried with Na₂SO₄, evapd. in vacuo under N, the oily residue immediately cyclized by dissolving it in 200 ml. PhMe and refluxing 2 hrs. with 1 g. p-MeC₆H₄SO₃H, the resulting soln. washed with aq. NaHCO₃, dried with Na₂SO₄, evapd. in vacuo, and the residue crystd. from petr. ether and alc. yielded 8 g. Et 3-p-tolyl-5-methyl-2-indene-carboxylate, m. 97-8.5.degree.. I (0.1 mole) in 150 ml. Et₂O at 0.degree. treated with stirring with 0.1 mole p-O₂NC₆H₄CHO in 125 ml. C₆H₆, hydrolyzed with 30 g. NH₄Cl in 150 ml. H₂O, worked up as usual, the residue, which crystd. on addn. of alc. and cooling, dissolved in AcOEt, and the soln. evapd. slowly yielded 7.2 g. RCH(OH)C(:CHR)CO₂Et (R = p-O₂-NC₆H₄) (VI), yellow crystals, m. 150-2.degree.. Evapn. in vacuo in the cold of the Et₂O soln. originally obtained gave 41% solid, C₁₈H₁₇BrN₂O₇, m. 75.5-77.degree., which did not decomp. vigorously and could be recrystd. from alc., and on heating in a vacuum desiccator lost HBr to form VI. I (0.23 mole) in 300 ml. Et₂O at 0.degree. treated with 20 g. AcH in 100 ml. abs. Et₂O during 45 min., the soln. hydrolyzed with 60 g. NH₄Cl in 300 ml. H₂O, the Et₂O layer sepd., washed with H₂O, dried over Na₂SO₄, and the Et₂O evapd. in vacuo under N gave a brown oily residue which decompd. vigorously on exposure to air; dissolving it in Et₂O, drying over Na₂SO₄, and distg. yielded 15.1 g. MeCH:C(CO₂Et)-CHMeOCHBrMe, b₁₂ 102-4.degree., n_D20 1.4794. In a subsequent expt. the explosive decompn. of the initial reaction product was moderated by addn. of 5 ml. AcOH after hydrolysis with NH₄Cl soln., the mixt. then washed with NaHCO₃ soln., dried over Na₂SO₄, the Et₂O evapd. in vacuo, the residual brown oil (40 g.) immediately refluxed 5 min. with 100 ml. 2N H₂SO₄, the mixt. extd. with Et₂O, the ext. washed with NaHCO₃ soln., dried over Na₂SO₄ and the residue fractionated in vacuo, yielding 15 g. MeCH:C(CHMeOH)CO₂Et (VII), b₁₅ 103-6.degree., n_D20 1.4532. VII (5 g.) in 20 ml. Me₂CO oxidized with 4 g. CrO₃ in 10 ml. H₂O and 3 ml. H₂SO₄ at 0-5.degree. during 2.5 hrs., 500 ml. H₂O added, the mixt. extd. 3 times with Et₂O, the ext. washed with aq. NaHCO₃ and H₂O, dried over Na₂SO₄, the solvent evapd., and the residue distd. in vacuo yielded 3 g. MeCH:CAcCO₂Et (VIII), b₁₄ 97-9.degree., n_D20 1.4513. In a similar expt. with I and EtCHO, the product immediately refluxed with 2N H₂SO₄ and worked up as usual yielded 33% impure EtCH:C(CO₂Et)CH(OH)-Et (IX), b₂₀ 124-28.degree., n_D20 1.4566. IX with CrO₃ in Me₂CO yielded impure EtCH:C(CO₂Et)COEt (X), b₁₅ 114-16.degree., n_D20 1.4520. MeCH(OH)C.tplbond.COEt (from AcH and LiC.tplbond.:COEt) (7 g.) in 60 ml. Et₂O added with stirring to 0.08 mole EtMgBr in 60 ml. Et₂O evolved C₂H₄, 6.4 g. BzH and 40 ml. Et₂O then added, the mixt. worked up as with II and the residue distd. after vigorous decompn. took place, yielded 6.6 g. brown oil, b₁₀ 125-45.degree., which was sapond. by boiling with 40 ml. 10% alc. KOH, the mixt. evapd. in vacuo, the residue dissolved in H₂O, extd. with Et₂O, and acidified, yielded a yellow oil which crystd. on

stirring with petr. ether; recrystn. from H₂O with C gave 2 g. CH₂:CHC(CO₂H):CHPh, m. 88-9.degree.. The dibromide, prepd. in CCl₄ and crystd. from C₆H₆, m. 170-1.degree..

L9 ANSWER 53 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:77477 CAPLUS

DN 50:77477

OREF 50:14520h-i,14521a-f

TI Action of mixed organomagnesium compounds on diketene

AU Gibaud, Alain; Willemart, Antoine

SO Bulletin de la Societe Chimique de France (1956) 432-41

CODEN: BSCFAS; ISSN: 0037-8968

DT Journal

LA Unavailable

AB The action of PhMgBr on diketene (I) gives AcPh (II) and Ph₂MeCOH (III) by cleavage (A) and dehydroacetic acid (IV) by condensation (B), both reactions occurring simultaneously. Alkylmagnesium compds. give very small yields by cleavage and anhyd. MgI₂ in situ gives quant. yields of IV by condensation. Investigation of the mechanism of reactions A and B failed to give unequivocal choice between the acetylketene, cyclobutanedione, 2-buten-3-yl-beta.-lactone, and 3-buten-2-yl-beta.-lactone structures proposed for I. PhMgBr (0.3 mole) in 300 cc. Et₂O treated slowly with vigorous stirring with 0.1 mole pure I in 200 cc. anhyd. Et₂O, hydrolyzed by gradual addn. of 150 cc. semisatd. NH₄Cl and 0.5N HCl for several hrs., decanted, and the washed Et₂O layer concd. to 75 cc., dried, treated with 25 cc. petr. ether, and evapd. slowly yielded 6.5 g. III [dehydrated to Ph₂C:CH₂, b_{12.5} 136.degree., n_D^{15.5} 1.6094; PhCHBrCH₂Br, m. 80.degree. (decompn.)]. Distn. of the mother liquors in vacuo gave 1.6 g. II, some Ph₂, and a viscous fraction, yielding 1.4 g. III when crystd. from Et₂O-petr. ether. Distn. of these mother liquors gave more II and III, bringing the total yields to 25% II and 40% III. The aq. layer acidified, extd. with Et₂O, concd., chilled, and the product recrystd. from H₂O yielded 20% IV, m. 108.degree.. Similar reactions with I were carried out with various organomagnesium compds. (organomagnesium compd., % yields of II, III, IV): MeMgI, <2, <2, 30; EtMgBr, <2, <5, 30; BuMgBr, 8, 15, 25; C₆H₁₁MgBr, 10, 12, 20; PhMgBr, 25, 40, 20; PhMgI, 5, 10, 20; PhLi, 25, 40, 20; Ph₂Mg, 30, 50, 0; and 1-C₁₀H₇MgBr, 40, 0, 0. A mixt. of 0.05 mole I and 0.15 mole PhMgBr in 150 cc. tetrahydrofuran treated with 0.15 mole BzCl, refluxed 2 hrs., 120 cc. tetrahydrofuran distd. and the residue shaken violently with 250 cc. Et₂O, 13.2 cc. dioxane added, and the ppt. filtered off over celite, washed with Et₂O, and distd. in vacuo yielded 25 g. yellow liquid, Cl(CH₂)₄OBz, b₁₄ 162-70%, and 3.5 g. red residue, which, mineralized with H₂SO₄, hydrolyzed with 15% HCl in Et₂O, and recrystd. from alc. gave Bz₂CH₂ (V), m. 76.degree.. The Et₂O-insol. ppt. taken up in H₂O, extd. with a large vol. of Et₂O, distd., the Et₂O distd., and the residue washed with alc. and crystd. from 125 cc. C₆H₆ gave 0.5 g. Bz₃CH (VI), m. 245.degree.. The action of BzCl on the complexes formed by the action of PhMgBr on I, producing V and VI, can be explained by the assumption of any of the 4 proposed constitutional formulas for I. The isolation of a compd. with a Mg content corresponding to the formula BzCH:CPhOMgBr is not regarded as sufficient proof for the AcCH:CO formulation. MeMgI (0.2 mole) in 200 cc. Et₂O treated with 0.05 mole I in 200 cc. Et₂O, hydrolyzed, extd. several times with Et₂O, and the ext. distd. gave 8 cc. of a mixt. of iso- and tert-BuOH. Powd. Mg (0.26 g.) and 2.67 g. iodine in 25 cc. anhyd. Et₂O treated dropwise with 1.6 cc. pure I, and the mixt. hydrolyzed with 10 cc. H₂O, decolorized with Na₂S₂O₃, decanted, washed, dried, and evapd. yielded 1.58 g. IV, m. 106.degree.. Detn. of active H by the Zerevitinov method with a Roth

microapp. for 100 moles I gave with RMgX (X = Cl, Br, and I, resp.) (R and % active H given): Me, -, 35, 43; Et, 33, 34, 42; iso-Pr, 36, 33, -. I itself has no active H; the liberated gases are generated by the HX liberated during the polymerization of the I-MgI₂ complex. Similar results were obtained with LiAlH₄. The lack of an active H in I contradicts the assumption of prototropic equil. forms of I proposed by Wasserman (C.A. 43, 1320d).

L9 ANSWER 54 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:73983 CAPLUS

DN 50:73983

OREF 50:13902i,13903a-d

TI Heterocyclic compounds. XXXV. Condensation of tetrahydro-.gamma.-pyrones and tetrahydro-.gamma.-thiapyrones with organomagnesium and **lithium** compounds

AU Nazarov, I. N.; Golovin, E. T.

CS Inst. Org. Chem., Acad. Sci., U.S.S.R., Moscow

SO Zhurnal Obshchei Khimii (1956), 26, 477-83

CODEN: ZOKHA4; ISSN: 0044-460X

DT Journal

LA Unavailable

AB cf. C.A. 47, 5371c; 50, 9411h; preceding abstr. To PhMgBr from 9.5 g. PhBr there was added with cooling 7 g. 2,5-dimethyltetrahydro-4-thiapyrone (I) in Et₂O and after 1 hr. at room temp. and 15 hrs. at reflux, the mixture was treated with ice and dil. HCl, yielding 37% 2,5-dimethyl-4-phenyltetrahydrothiapyran-4-ol (II), b₂ 123-4.degree.; the yield was 41% after 20 hrs. refluxing. PhLi from 1 g. Li and 12 g. PhBr in Et₂O under N was treated at -10.degree. with 7 g. I; after standing overnight, the mixt. was refluxed 3 hrs. and treated with H₂O, yielding 65% II, b₁ 122-3.degree.. This oxidized with KMnO₄ in Me₂CO in the presence of 10% H₂SO₄ to II sulfoxide, m. 231-2.degree. (from EtOH), relatively insol. in C₆H₆. Use of a larger amount of KMnO₄ gave the corresponding sulfone, m. 163-4.degree. (from C₆H₆-petr. ether), and its diastereoisomer, m. 170-70.5.degree. (mixed m.p. 159-68.degree.). PhMgBr with 2,2-dimethyltetrahydro-4-thiapyrone gave in 2 hrs. of refluxing 68% 2,2-dimethyl-4-phenyltetrahydrothiapyran-4-ol, b₂ 119-20.degree., which on standing deposited a low yield of the solid form, m. 69-70.degree.. This with KMnO₄ in Me₂CO in the presence of 10% H₂SO₄ gave the sulfone, m. 180-1.degree. (from MeOH), the same being formed from the liquid form. PhMgBr with 2,2-dimethyltetrahydro-4-pyrone after 2 hrs. at room temp. gave 76% 2,2-dimethyl-4-phenyltetrahydropyran-4-ol, isolated as the liquid isomer, b₂ 104-5.degree., and solid isomer, m. 122.5-3.degree.; the former solidified and m. 122-3.degree.. 2,2-Dimethyltetrahydro-4-thiapyrone and MeMgI gave in 2 hrs. 60% 2,2,4-trimethyltetrahydrothiapyran-4-ol, m. 82-3.degree. (from petr. ether). The use of 2,2-dimethyltetrahydro-4-pyrone similarly gave 64% 2,2,4-trimethyltetrahydro-4-pyranol, b₁ 56-8.degree., n_D20 1.4569.

L9 ANSWER 55 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:44544 CAPLUS

DN 50:44544

OREF 50:8610b-i,8611a-f

TI Action of Grignard reagents. VIII. Action of organo-**magnesium** and **lithium** compounds on benzo-, naphtho-(2',3')oxazol-2-ones and their N-substituted derivatives

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CS Cairo Univ., Egypt

SO Journal of the American Chemical Society (1955), 77, 5127-30

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB cf. C.A. 50, 2601h. Treatment with Grignard reagents, followed by hydrolysis, caused the opening of the hetero ring in benzo- and in naphtho(2',3')oxazol-2-ones and their N-aro-yl- and N-arylsulfonyl derivs. to give the corresponding N-aro-yl- and N-arylsulfonyl derivs. of o-H₂NC₆H₄OH (I) and 3,2-H₂NC₁₀H₆OH (II). Similar results were obtained with PhLi. Similarly, the action of PhMgBr yielded 3-oxo-1-phenyl-1-hydroxyisoindoline (III) and Ph₃COH (IV) from N-benzoylphthalimide (V), benzotriazole (VI) and IV from 1-benzoylbenzotriazole (VII), and (CH₂CPh₂OH)₂ (VIII) and p-MeC₆H₄SO₂NH₂ in the case of N-(p-toluenesulfonyl)succinimide (IX). PhMgBr also brought out the cleavage of the N-C bond in PhSO₂NPhBz (X) to give PhSO₂NHPh and IV. Benzoxazol-2-one (XI) (1 g.) in 30 cc. dry C₆H₆ added to PhMgBr from 0.9 g. Mg and 9 g. PhBr in 50 cc. dry Et₂O, the Et₂O evapd., the residual mixt. heated 3 hrs. on the steam bath, held at room temp. overnight, poured slowly into 100 cc. satd. aq. NH₄Cl, and extd. with Et₂O, the Et₂O-C₆H₆ soln. dried and evapd., and the solid residue recrystd. from C₆H₆ gave 0.58 g. N-Bz deriv. (XII) of I, m. 164.degree.; it gave a greenish brown color with FeCl₃ soln. Naphtho(2',3')oxazol-2-one (XIII) in 40 cc. C₆H₆ added to PhMgBr gave about 0.72 g. N-Bz deriv. (XIV) of II, colorless crystals, m. 233.degree. (from EtOH). 3-Benzoylbenzoxazol-2-one (XV) in 30 cc. C₆H₆ added portionwise to PhMgBr, the mixt. refluxed 4 hrs., held at room temp. overnight, decompd., and extd. with Et₂O, the ext. evapd., and the solid residue washed with petr. ether and extd. with hot ligroine gave 0.51 g. colorless crystals of XII; the petr. ether ext. evapd. gave 0.28 g. IV, m. 163.degree.. XV in 50 cc. dry C₆H₆ treated slowly with PhMgBr under a pos. N pressure of 7 mm., and the mixt. refluxed 3 hrs. and worked up in the usual manner gave 0.46 g. XII and 0.25 g. IV. p-MeC₆H₄MgI (from 0.8 g. Mg and 7.5 g. p-MeC₆H₄I in 40 cc. Et₂O) treated with XV in 40 cc. C₆H₆, the mixt. worked up as usual, the Et₂O-C₆H₆ soln. washed with about 45 cc. 10% aq. NaOH, dried, and evapd., the oily residue scratched and cooled, the resulting mixt. of colorless crystals and oil washed with about 15 cc. petr. ether to leave (p-MeC₆H₄)₂, and the petr. ether soln. concd. and cooled gave 0.16 g. (p-MeC₆H₄)₂C(OH)Ph, m. 75.degree.; the alk. washings acidified and extd. with Et₂O, the ext. dried and evapd., and the solid residue recrystd. from C₆H₆ gave about 0.44 g. o-(p-MeC₆H₄CO)NHC₆H₄OH, colorless crystals, m. 135.degree.; it gave a green color with H₂SO₄ and a yellow color with alc. FeCl₃. 1-C₁₀H₇MgBr (from 1.2 g. Mg, 10.4 g. 1-C₁₀H₇Br, and 40 cc. dry Et₂O) refluxed 3 hrs. with 1.5 g. XV in 40 cc. C₆H₆ yielded in the usual manner 0.58 g. (1-C₁₀H₇)₂C(OH)Ph (XVI), colorless crystals, m. 165.degree. (from glacial AcOH); it gave a deep violet color with H₂SO₄; the alkali ext. from the processing acidified with cold dil. HCl and extd. with Et₂O, and the ext. evapd. gave 0.87 g. o-(1-C₁₀H₇CO)NHC₆H₄OH (XVII), colorless crystals, m. 192.degree. (from C₆H₆); it gave with H₂SO₄ a green color which changed to brown on the addn. of a crystal of KNO₃. XVII (0.5 g.) treated with 1 cc. BzCl in the presence of 10 cc. 15% aq. NaOH gave 0.61 g. O-Bz deriv. of XVII, colorless crystals, m. 174.degree. (from glacial AcOH). PhLi (from 1.2 g. Li and 12 g. PhBr) in 38 cc. Et₂O added dropwise to 1.2 g. XV in 35 cc. C₆H₆, the mixt. refluxed 0.5 hr., held 1 hr. at room temp. (all under 7 mm. pos. N pressure), poured slowly into 100 cc. satd. aq. NH₄Cl, and extd. with Et₂O, the ext. washed with 40 cc. 8% aq. NaOH and H₂O, dried, and evapd., and the residue recrystd. from ligroine yielded 0.47 g. IV, m. 163.degree.; the alkali washings acidified gave 0.72 g. XII. XIII treated with BzCl gave almost 100% 3-Bz deriv. (XVIII) of XIII, colorless crystals, m. 226.degree.; it gave a pale yellow color with H₂SO₄. XVIII

in 40 cc. C₆H₆ treated in the usual manner with PhMgBr, the Et₂O-C₆H₆ soln. evapd., the residue extd. with about 25 cc. cold C₆H₆, and the insol. residue recrystd. from EtOH gave 0.42 g. XIV, colorless crystals, m. 232.degree.; the C₆H₆ ext. concd. and cooled yielded 0.39 g. IV. XVIII (1.5 g.) treated similarly with 1-ClO₇H₇MgBr gave 0.51 g. XVI and 0.88 g. IV. 3-Acetylbenzoxazol-2-one (1.5 g.) in 40 cc. C₆H₆ gave similarly with PhMgBr 0.83 g. XII and 0.58 g. Ph₂C(OH)Me, m. 82-3.degree. (it gave a red color with H₂SO₄). XI (1 g.) in 10 cc. freshly distd. pyridine treated with 1.5 g. PhSO₂Cl, the mixt. heated 0.5 hr. on the steam bath, kept at room temp. overnight, and filtered, and the residue washed with about 10 cc. cold EtOH and recrystd. from hot EtOH gave 1.32 g. 3-benzenesulfonylbenzoxazol-2-one (XIX), colorless crystals, m. 144.degree.. XIX (1.5 g.) and PhMgBr worked up in the usual manner, the Et₂O soln. washed with 40 cc. cold aq. NaOH and H₂O, dried, and evapd. gave 0.46 g. IV; the alkali washings acidified and extd. with Et₂O gave 0.78 g. N-Bz deriv. (XX) of I, m. 140-1.degree.; it gave an olive-green color with alc. FeCl₃. XX (0.5 g.) treated with 1 cc. PhSO₂Cl in the presence of 20 cc. 15% aq. NaOH, the mixt. heated 2 hrs. on the steam bath, and the resulting colorless solid recrystd. from EtOH gave about 64% O,N-di-Bz deriv. of I, m. 164.degree.. 3-(p-Toluene-sulfonyl)benzoxazol-2-one and PhMgBr gave similarly 0.46 g. IV and 0.58 g. o-(p-MeC₆H₄SO₂NH)C₆H₄OH (XXI), which gave a pale green color with alc. FeCl₃ and yielded, treated with BzCl and aq. NaOH, the O-Bz deriv. 3-PhSO₂ deriv. (XXII) of XIII, colorless crystals, m. 204.degree., was prepd. in almost 100% yield from XII and PhSO₂Cl in the usual manner. XXII (0.7 g.) treated with PhMgBr in the usual manner gave 0.18 g. IV and 0.27 g. 3,2-PhSO₂NHC₁₀H₆OH, m. 166.degree. (from C₆H₆); it gave an olive-green color with alc. FeCl₃. XIX treated with 1-ClO₇H₇MgBr, the mixt. worked up in the usual manner, the Et₂O soln. washed with aq. NaOH and H₂O, dried, and evapd., the oily residue treated with 20 cc. fuming HNO₃, the mixt. poured into cold H₂O, and the yellow powdery ppt. washed with AcOH gave hexa-nitro-.alpha.,.alpha.,.alpha.-trinaphthylcarbinol; the alk. washings acidified gave 0.38 g. XX. XIX (1.5 g.) treated with PhMgBr gave 0.54 g. IV and 0.51 g. XX. V in 50 cc. C₆H₆ treated with PhMgBr in the usual manner, the Et₂O soln. evapd., the oily residue washed with hot petr. ether, and the resulting powder recrystd. from C₆H₆-petr. ether yielded 0.38 g. III, m. 163.degree.; it gave a red color with H₂SO₄; the petr. ether washings gave 0.21 g. IV. VII and PhMgBr gave similarly 0.62 g. IV and VI, m. 98.degree., which treated with BzCl yielded VII. IX treated with PhMgBr and the mixt. worked up in the usual manner yielded 0.62 g. VIII, colorless crystals, m. 205-6.degree., and from the alk. exts. 0.32 g. p-MeC₆H₄SO₂NH₂, colorless crystals. X and 30 cc. C₆H₆ added to PhMgBr, the mixt. refluxed 5 hrs., held at room temp. overnight, decompd. with aq. NH₄Cl, and extd. with Et₂O, the ext. washed with 35 cc. 10% aq. NaOH and H₂O, and evapd., and the oily residue washed with cold petr. ether and crystd. from CHCl₃ gave 0.53 g. IV; the alk. washings acidified and extd. with Et₂O gave 0.21 g. PhSO₂NHPh.

L9 ANSWER 56 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:44254 CAPLUS

DN 50:44254

OREF 50:8446c-h

TI The deuterium isotope effect in the methanolysis of some organometallic compounds

AU Wiberg, Kenneth B.

CS Univ. of Washington, Seattle

SO Journal of the American Chemical Society (1955), 77, 5987-90

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB The Bu, Ph, and PhCH₂ Grignard and Li reagents react with MeOD faster or as fast as with ordinary MeOH. A similar isotope effect was noted in the reaction of MeCHNaCO₂Me (I) with MeOH. The results are compared with the data available in the literature. The isotope effect of the neutralization of the C-anion of PhCH(OH)CN (II) also was detd., and the rate law for the benzoin condensation has been reconsidered based on this evidence. MeOH and D₂O fractionated through a column gave MeOD. BuMgBr (0.1 mole) in 80 cc. Bu₂O refluxed in a slow stream of N, the mixt. treated with 1 cc. MeOD in 20 cc. Bu₂O and heated, and the resulting C₄H₁₀ swept with N into a Dry Ice-Me₂CO trap gave C₄H₁₀ contg. 33.5 \pm 0.2% D. BuMgBr (from 2.1 g. BuBr and 0.28 g. Mg) in 15 cc. Bu₂O, refluxed in a slow stream of N and then added slowly to 5 cc. MeOD contg. 33.5-4.5% D in 15 cc. Bu₂O with stirring, and the resulting butane isolated in the usual manner gave in 3 identical runs butane with 38.8, 38.9, and 36.3% D (isotope effect kH/kD 0.83, 0.83, and 0.87), resp. A similar reaction with an equiv. amt. Li for the Mg gave quite erratic results and low yields of butane which were overcome by using C₆H₆ as the solvent. BuBr gave thus with Li and MeOD contg. 33.5% D in 2 runs butane contg. 33.6 and 33.7% D (isotope effect 1.00 and 0.99), resp. PhMgBr from 3.1 g. PhBr, 0.50 Mg, and 15 cc. dry Et₂O added with stirring to 8 cc. MeOD contg. 33.5 and 36.7% D, the mixt. treated after 10 min. with dil. HCl, and the org. layer dried and distd. gave C₆H₆, b. 78-82.degree., contg. 34.4 and 37.5% D, resp. (isotope effect 0.96, 0.97); the C₆H₆ contg. small amts. of Et₂O and Bu₂O which did not interfere with the mass spectrum analysis. PhLi and MeOH contg. 34.5 and 33.5% D gave C₆H₆ contg. 37.1 and 35.7% D (isotope effect 0.89 and 0.91), resp. PhCH₂MgCl from 2.5 g. PhCH₂Cl and 0.50 g. Mg added to MeOD contg. 33.5 (36.7)% D, and the mixt. worked up in the usual manner gave toluene contg. 35.0 (36.9)% D [isotope ratio 0.93 (0.99)]. EtCO₂Me (3 cc.) added with shaking to 100 cc. 0.45N Ph₃CNa, the resulting Et₂O soln. of I added with stirring to 15 cc. MeOD contg. 75.7% D, the mixt. treated after 0.5 min. with stirring rapidly with 55 cc. N HCl, and the Et₂O soln. washed, dried, and distd. gave 1.5 cc. EtCO₂Me, b. 77-9.degree., contg. 72.8% D (isotope effect 1.16). The benzoin condensation carried out as described previously (C.A. 49, 13184e) but with 93.7% pure EtOD showed after 75 and 120 min. 23 and 32% exchange with rate consts. k_e of 3.5 and 3.2 .times. 10⁻³, resp.; with 52.0% pure EtOD 10 and 16% exchange occurred after 75 and 120 min., resp., with an av. rate const. k_e of 1.5 \pm 0.1 .times. 10⁻³.

L9 ANSWER 57 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:35956 CAPLUS

DN 50:35956

OREF 50:7072d-g

TI Addition reactions of triazenes, illustrating the reactivity of N:N double bonds

AU Klages, Friedrich; Mesch, Walter

CS Univ. Munich, Germany

SO Chemische Berichte (1955), 88, 388-96

CODEN: CHBEAM; ISSN: 0009-2940

DT Journal

LA Unavailable

AB When azo compds. are converted to triazenes, the N:N double bonds become less ready to undergo nucleophilic addn. reactions so that triazene derivs. cannot be obtained by such reactions (cf. Gilman and Pickens, C.A. 19, 2936). Reaction of PhN:NNHPh (I) with EtMgBr in Et₂O or tetrahydrofuran leads to elimination of C₂H₆ and recovery of I when the

red complex is hydrolyzed with dil. aq. NH_4Cl . I is also recovered when the red complex of I with PhLi in Et_2O or C_6H_6 solns. is destroyed, or on decompn. of the complex of I with LiAlH_4 , m. 245.degree., in Et_2O or tetrahydrofuran. Reaction of I with EtMgBr in Et_2O and refluxing with BzCl leads to formation of N; on hydrolysis PhNBz_2 (II), m. 161.degree., is formed, while the same reaction at 0.degree. gives PhN_2Cl (III) as well as II. Reaction of EtMgBr in Et_2O with PhN:NHMe , then with BzCl , gives C_2H_6 , N_2 , and II. PhN:NNBzPh with BzCl in Et_2O in the presence of SbCl_5 , BF_3 , ZnCl_2 , or MgBr_2 with cooling yields III after hydrolysis. EtMgBr with PhN:NNMe_2 (IV) in tetrahydrofuran gives C_2H_6 , N, and, after hydrolysis of the complex, 1,4-diphenyl-2,5-diethylhexahydro-1,2,4,5-tetrazine, m. 124.degree., as well as MeNH_2 . An addn. mechanism is proposed for its formation, which is accompanied by a secondary reaction in which the N is eliminated. IV with dry LiAlH_4 at 120.degree. gives PhNH_2 and NHMe_2 , this reaction can be regarded as reduction with decompn. of the N chain. $p\text{-MeC}_6\text{H}_4\text{N:NNMe}_2$ (from PhNMe_2 and $p\text{-MeC}_6\text{H}_4\text{N}_2\text{X}$), m. 51.degree., with PhLi in Et_2O forms N and $m\text{-MeC}_6\text{H}_4\text{CH}_2\text{NHMe}$, characterized as the H oxalate, m. 205.degree., and as the $p\text{-toluenesulfonamide}$, m. 81.degree.; a mechanism is presented for this reaction.

L9 ANSWER 58 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1956:16132 CAPLUS

DN 50:16132

OREF 50:3300c-g

TI Reactions of the carbonamide group. III. Reaction with organometallic compounds

AU Heyns, Kurt; Pyrus, Wolfgang

CS Univ. Hamburg, Germany

SO Chemische Berichte (1955), 88, 678-83

CODEN: CHBEAM; ISSN: 0009-2940

DT Journal

LA Unavailable

AB cf. C.A. 48, 1261c. Amides, R'CONHR'' (including polypeptides), react with a 3- to 5-fold excess of RMgX or RLi , in suitable solvents and at sufficiently high temp., to produce, after hydrolysis, $\text{R'COR} + \text{H}_2\text{NR''}$. AcNHMe , PhNHAc (I), Et hippurate, $\text{BzNHCH}_2\text{CPh}_2\text{OH}$ (II), Et aceturate, Et N-glycylglycinate (III), $\text{H}_2\text{NCH}_2\text{CONHCH}_2\text{CPh}_2\text{OH}$ (IV), or Me N-(N-leucylglycyl)glycinate (V) reacted thus. R in the RLi was Ph (at 36.degree.) or Et; reaction times for RLi were 1-3 hrs. R in RMgX was Ph (at 150.degree. in most cases), Me, Et, or Bu; times were 4-30 hrs. Yields of R'COR were only about 20-40%, and the reaction is therefore not practical for preparative cleavage of proteins. Caprolactam and BuMgBr at 150.degree. gave 2-butyl-.DELTA.1-hexamethylenimine 14.5% and 2,2-dibutylhexamethylenimine 6.7%, isolated as the picrolonates, m. 173.degree. and 118.degree., resp. H in -CONH- reacts with MeMgI in the Zerevitinov detn. if the detn. is performed in anisole at 120.degree.; compds. tested and moles of CH_4 evolved were: I, 1.02 and 1.00; II, 2.01 and 2.02; $\text{AcNHCH}_2\text{CPh}_2\text{OH}$ (VI), 2.01 and 1.99; III.HCl, 3.82 and 3.84; V.HCl, 4.78 and 4.88; IV, 4.71 and 4.78; N-glycylglycine, 0.02 and 0.01; 2,4-piperazinedione, 0.01 and 0.03. EtMgBr and I, heated 1 hr., then treated with AcCl or PrCOCl , gave PhNAC_2 or PhNACCOPr , but II or VI, treated in the same way, were dehydrated to 53% BzNHCH:CPh_2 , m. 131.degree., or 46% AcNHCH:CPh_2 (VII), m. 161.degree., resp. VII was prepd. also from VI and Ac_2O at 150.degree. in a sealed tube. VI, m. 138.degree., was prepd. from Et aceturate and PhMgBr . .alpha.-Aminoisocaprophenone-HCl, m. 199-203.degree. (decompn.) (2,4-dinitrophenylhydrazon-HCl, m. 202.degree.), was prepd. by reaction of concd. HCl at 135.degree. in a sealed tube with N-(1-benzoyl-3-

methylbutyl)benzamide (VIII), m. 107.degree.. VIII was obtained from N-benzoylleucyl chloride and AlCl₃ in C₆H₆. .alpha.-Aminoacetophenone 2,4-dinitrophenylhydrazone-HCl m. 221.degree..

L9 ANSWER 59 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1955:73515 CAPLUS

DN 49:73515

OREF 49:13953h-i,13954a-i,13955a-f

TI Action of Grignard reagents. VI. (a) Cleavage by organomagnesium and lithium compounds and by lithium aluminum hydride; (b) action of phenyllithium on phenanthraquinone and benzil monoximes

AU Mustafa, Ahmed; Asker, Wafia; Hishmat, Orkede H.; Shalaby, Ahmed F. A.; Kamel, Mohamed

CS Cairo Univ., Egypt

SO Journal of the American Chemical Society (1954), 76, 5447-52

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB cf. C.A. 48, 12084b. The treatment with Grignard reagents, followed by hydrolysis caused opening of the hetero ring in substituted 1,8-naphthosultones to give the corresponding derivs. of 8-arylsulfonyl-1-naphthol. PhMgBr also caused the cleavage of the N-S bond in N-arylsulfonyl derivs. and the cleavage of the N-C bond in N-aroyl derivs. Similar results were obtained with PhLi. The hydrogenolysis with LiAlH₄ caused the opening of the hetero ring of 1,8-naphthosultone (I) and its substituted derivs. and of N-phenylsulfonylnaphthosultam (II) to give the corresponding disulfides. 5-Br deriv. (III) of I (1 g.) in 50 cc. dry Et₂O added to PhMgBr from 0.9 g. Mg and 9 g. PhBr in 50 cc. dry Et₂O, the mixt. heated 3 hrs. on the steam bath, kept overnight at 25.degree., poured slowly into 100 cc. satd. aq. NH₄Cl, dried, filtered, and evapd., the oily residue washed several times with hot petr. ether, and the resulting solid recrystd. from C₆H₆ gave 0.73 g. 5,8-Br(PhSO₂)C₁₀H₅OH (IV), m. 162.degree., brown in H₂SO₄, gave a violet color with alc. FeCl₃. III (1.5 g.) and 1-C₁₀H₇MgBr gave 0.9 g. 5,8-Br(1-C₁₀H₇SO₂)C₁₀H₅OH (V), m. 195.degree., green in H₂SO₄, gave a red-brown color with alc. FeCl₃. The 5-BrCH₂ deriv. (VI) (2.0 g.) of I gave similarly 1.1 g. 5-BrCH₂ analog (VI) of IV, m. 169.degree., purple in H₂SO₄, gave a red color with alc. FeCl₃; and 1.2 g. 5-BrCH₂ analog (VII) of V, m. 232.degree., blue-green in H₂SO₄, gave a red color with alc. FeCl₃; all products were sol. in aq. NaOH with yellow color. VI (1 g.) in 40 cc. Et₂O treated with CH₂N₂ [from 10 g. H₂NCON(NO)Me] in Et₂O 24 hrs. at 0.degree., the mixt. washed with about 40 cc. 8% cold aq. NaOH and H₂O, dried, and evapd., and the residue recrystd. from C₆H₆ gave 78% Me ether of VI, m. 199.degree.. VII gave similarly 71% Me ether of VII, m. 244.degree.. A mixt. of PhMgBr and (PhSO₂)₂NPh (VIII) worked up in the usual manner, the oily residue washed with petr. ether and then extd. with hot petr. ether, and the insol. product dissolved in C₆H₆ and pptd. with petr. ether gave 0.19 g. Ph₂SO₂, m. 124.degree.; the petr. ether ext. concd. and cooled gave 0.41 g. PhSO₂NHPh; the light petr. washings slowly evapd. gave 0.13 g. Ph₂, 1-(p-MeC₆H₄SO₂)₂NC₁₀H₇ (IX) gave similarly 0.42 g. p-(1-C₁₀H₇NHSO₂)C₆H₄Me and 0.23 g. p-MeC₆H₄SO₂Ph. N-p-Toluenesulfonylcarbazole (X) and PhMgBr gave similarly a solid residue which washed several times with ligroine (b. 60-80.degree.) and recrystd. from EtOH gave 0.51 g. carbazole, m. 240.degree.; the concd. ligroine washings gave 0.1 g. p-MeC₆H₄SO₂Ph. PhNBz₂ (XI) and PhMgBr refluxed 5 hrs., the mixt. kept at room temp. overnight, decompd. with dil. HCl, and extd. with Et₂O, and the insol. product washed with H₂O and recrystd. from EtOH gave 0.6 g. BzNHPh, m. 162.degree.; the Et₂O-C₆H₆ soln. washed with about 45 cc. 8% aq. NaOH,

dried, and evapd. yielded 0.27 g. Ph3COH, m. 163.degree. (from C6H6-petr. ether). 1-C10H7NBz2 (XII) and PhMgBr gave in the usual manner 0.53 g. 1-C10H7NHBz and 0.23 g. Ph3COH. N-Benzoylcarbazole (XIII) gave similarly 0.41 g. carbazole and 0.27 g. Ph3COH. BzNHPh (2 g.) in 75 cc. C6H6 and PhMgBr refluxed 8 hrs. and decompd. with dil. HCl gave 0.38 g. BzNHPh, and from the C6H6-Et2O mixt. 0.61 g. Ph2C: NPh. 1-C10H7NHBz and PhMgBr gave about 0.7 g. recovered starting material and 0.33 g. 1-C10H7N:CPh2, yellow, m. 136.degree.. MgI (from 1 g. Mg powder and 4 g. iodine in 20 cc. dry Et2O and 20 cc. dry C6H6) refluxed 3 hrs. with N,N'-dibenzenesulfonyldianthranilide (XIV), kept at room temp. overnight, and decompd. with ice in satd. aq. NH4Cl gave essentially unchanged XIV; VIII and X behaved in the same manner. PhLi from 16 g. PhBr, 1.5 g. Li. and 100 cc. dry Et2O added to 2 g. XIV in 50 cc. dry C6H6, the mixt. kept at room temp. overnight under N at a pos. pressure of 7 mm., poured slowly into 100 cc. satd. aq. NH4Cl, extd. with Et2O, the ext. dried and evapd., and the oily residue washed several times with cold petr. ether and recrystd. from C6H6-petr. ether gave 1.7 g. .omicron.-PhSO2NHC6H4C(OH)Ph2, m. 188.degree.. 2-Phenyl-1,2-benzisothiazol-3-one 1,1-dioxide treated with PhLi (from 1 g. Li and 12 g. PhBr in 80 cc. Et2O) in 30 cc. C6H6, the mixt. decompd. with dil. HCl, the org. layer evapd., and the oily residue washed with light petroleum and crystd. from C6H6 gave 0.58 g. .omicron.-PhNHSO2C6H4C(OH)Ph2, m. 205.degree.. 2-Phenylsulfonyl-1,2-benzisothiazol-3-one in 30 cc. C6H6 treated with PhLi in Et2O, the mixt. extd. with about 27 cc. cold 8% aq. NaOH, and H2O, dried, and evapd., and the oily residue washed twice with 60 cc. petr. ether (b. 40.degree.) and crystd. from petr. ether gave 0.41 g. .omicron.-PhSC6H4C(OH)Ph2, m. 140.degree.; the alk. ext. acidified with dil. HCl, extd. with Et2O, dried, and evapd., and the solid residue (0.29 g.) crystd. from C6H6 gave PhSO2NH2. N-Benzenesulfonylphthalimide (2 g.) in 50 cc. C6H6 treated in the usual manner with PhMgBr, the Et2O layer extd. with cold aq. NaOH, washed with H2O, dried, and evapd., and the oily residue washed with petr. ether and recrystd. gave 1.1 g. .omicron.-C6H4[C(OH)Ph2]2, m. 201.degree.; the petr. ether washings slowly evapd. gave 0.31 g. Ph2; the aq. alk. ext. acidified with dil. HCl gave 0.48 g. PhSO2NH2. I (2 g.) treated with PhLi and 30 cc. C6H6, the mixt. kept 0.5 hr. at 25.degree. and decompd., the Et2O-C6H6 layer washed with about 60 cc. 8% cold aq. NaOH, the alk. ext. acidified, extd. with Et2O, dried, and evapd., and the residue recrystd. from C6H6-petr. ether gave 8,1-PhSO2C10H6OH, m. 140.degree., gave a green color with alc. FeCl3. VIII, IX, X, XI, XII, and XIII gave with PhLi instead of PhMgBr the same reaction products with no marked difference in yields. VIII (1 g.) in 30 cc. C6H6 added in portions to 0.7 g. LiAlH4 in 50 cc. Et2O previously refluxed 15 min., the mixt. refluxed 3 hrs., kept at room temp. overnight, treated with cold dil. HCl, dried, and evapd., and the oily residue washed several times with petr. ether and recrystd. gave 0.34 g. PhSO2NH2; the light petr. washings evapd. gave an oil which treated with BzCl and aq. NaOH gave 0.22 g. BzSPh. XIII and XII gave similarly 0.42 g. carbazole and 0.38 g. BzNHPh; the petr. ether washings gave PhCH2OH. I, VI, the CH2Cl, and the Me deriv. refluxed 2 hrs. with LiAlH4 in the usual manner, the mixt. treated with cold aq. NH4Cl, the org. layer dried and evapd., the oily residue from I washed with petr. ether, and the washings evapd. gave 0.1 g. 1-hydroxy-8-thionaphthol, m. 58.degree., gave a blue-green color with alc. FeCl3; the residue from the washings recrystd. from C6H6-petr. ether gave 0.45 g. 1,1'-dihydroxy-8,8'-dinaphthyl disulfide (XV), yellow, m. 168-9.degree., brown in H2SO4; the solid residue from the CH2Cl and Me derivs. recrystd. from C6H6-petr. ether gave 65, 72, and 78%, resp., of the 4,4'-dimethyl deriv. (XVI) of XV, pale yellow crystals, m. 128.degree., olive-green in H2SO4. BzCl (2 cc.) added to 0.4 g. XV in 20 cc. 8% aq. NaOH, and the resulting solid

washed with H₂O, dried, and recrystd. from C₆H₆ gave almost 100% di-Bz deriv. of XV, m. 189-90.degree., yellow-green in H₂SO₄ changing to brown. Similarly was prepd. in almost quant. yield the di-Bz deriv. of XVI, m. 260.degree.. II (1 g.) treated with LiAlH₄ in the usual manner yielded 0.52 g. 1,1'-di(phenylsulfonylamino)-8,8'-dinaphthyl disulfide, colorless crystals, m. 179.degree., yellow in H₂SO₄ changing to olive-green (red-brown in the presence of a crystal of KNO₃). Phenanthraquinone monoxime (1 g.) in 40 cc. dry C₆H₆ treated with PhLi, the C₆H₆ soln, dried and evapd., and the solid residue recrystd. from C₆H₆ gave 71% 10-phenanthrylhydroxylamino-9-hydroxyphenanthrene, m. 162.degree.. A-Benzil monoxime gave similarly 1,1,2-triphenyl-1-oximino-2-ethanol, m. 153-4.degree., in almost quant. yield.

L9 ANSWER 60 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1955:73466 CAPLUS

DN 49:73466

OREF 49:13929d-i,13930a

TI The reaction of Grignard reagents with .alpha.,.beta.-unsaturated sulfones. I

AU Potter, Howard

CS Alma Coll., Alma, MI

SO Journal of the American Chemical Society (1954), 76, 5472-4

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB The behavior of .alpha.,.beta.-unsatd. sulfones is variable according to the degree of substitution at the .beta.-C, being similar to the behavior of comparable unsatd. ketones in yielding products of conjugate addn. or of alternative reactions, but different in that the reaction with PhLi is influenced the same as is the reaction with PhMgBr. BzCH₂Cl (172 g.) in MeOH and 1 equiv. of p-MeC₆H₄SNa refluxed, the mixt. concd. to a small vol., the residue shaken with H₂O and Et₂O, the Et₂O layer evapd., and the residue distd. gave 0.42 mole PhAc and 168 g. p-MeC₆H₄SCH₂Bz (I), b₅ 182-4.degree., m. 46.degree., which was oxidized with H₂O₂ in 100% yield to p-MeC₆H₄SO₂CH₂Bz, m. 107.degree.. Approx. 0.5 mole PhMgBr added with stirring and cooling to 100 g. I, the mixt. kept 10 min. at 0.degree., and shaken with iced HCl, and the Et₂O layer extd. with aq. NaOH (gave acidified 24 g. p-MeC₆H₄SH), steam distd., dried, and distd. gave 32 g. p-MeC₆H₄SPh (II), b₅ 131-2.degree.; at 200-20.degree. bath temp. and 3-5 mm. p-MeC₆H₄SCH:CPh₂ (III), m. 84.degree. (from Me₂CO-petr. ether or glacial AcOH-MeOH); at 280-300.degree. p-MeC₆H₄SCH₂C(OH)Ph₂, oil, was obtained. III treated 2 hrs. at 10.degree. with 1 equiv. 30% H₂O₂ in glacial AcOH the mixt. poured into H₂O and extd. with Et₂O, and the ext. washed, dried, and evapd. gave 50% p-MeC₆H₄SOCH:CPh₂ (IV), m. 124-5.degree. (pptd. from Me₂CO with petr. ether); the crystn. residues oxidized gave p-MeC₆H₄SO₂CH:CH₂ (V). III treated with 2 equivs. H₂O₂ or IV treated with 1 equiv. H₂O₂ gave 100% V, m. 103-3.5.degree. (from MeOH). V was oxidized with KMnO₄ in Me₂CO to PhBz. V added to 5 mole equivs. PhMgBr, the mixt. let stand a day or longer, (or C₆H₆ added, the Et₂O distd. off, and the C₆H₆ soln. refluxed), treated with ice and acid, the org. layer washed and steam distd., the steam distillate extd. with Et₂O, the ext. dried and evapd., the residue treated with 30% H₂O₂ in glacial AcOH, the AcOH soln. dild. with H₂O and steam distd., and the distn. residue recrystd. from MeOH gave p-MeC₆H₄-SO₂Me (VI), m. 123-5.degree., the same result was obtained with IV. III and IV gave similarly with PhLi impure VI from which some Ph₂SO₂, m. 114-17.degree., was isolated. The residue from the 1st steam distn. treated with H₂O₂ in glacial AcOH and recrystd. from MeOH gave V, m. 103.degree.. p-MeC₆H₄-SO₂CH:CHPh gave with

PhLi similarly as PhMgBr 85% p-MeC₆H₄CO₂CH₂CHPh₂, m. 150-1.degree. (from MeOH). I (16.7 g.) in hot C₆H₆ treated with vigorous stirring dropwise with 0.05 mole PhMgBr vaporizing the Et₂O through a column, the mixt. refluxed 1 hr., kept 24 hrs. at room temp., and worked up in the usual manner gave only 14.5 g. unchanged I. PhMgBr (0.25 mole) treated with 0.05 mole I in C₆H₆, the mixt. let stand overnight, the Et₂O distd. off, the C₆H₆ soln. refluxed 3 hrs., and the mixt. worked up in the usual manner by steam distn. gave 3.5 g. white gleaming crystals, m. 58-60.degree. (from MeOH), contg. 94.5% C and 6.2% H; this hydrocarbon could not be found among the products after 6 days at room temp. and was not investigated further.

L9 ANSWER 61 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1954:23530 CAPLUS
 DN 48:23530
 OREF 48:4234f-i
 TI Sulfonates
 IN Helberger, Johann H.; Heyden, Rudi W. F.
 PA Bohme Fettchemie G. m. b. H.
 DT Patent
 LA Unavailable
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 895598		19531105	DE	
AB	A process of prepg. sulfonates, useful as detergents, wetting, textile auxiliary, or pharmaceutical agents, or intermediates in the manuf. of dyes, comprises treating sultones with hydrocarbon compds. of metals of Group I, II, or III of the periodic table, such as Grignard reagents, BuLi, PhNa, and fluorene Na. A mixt. of a soln. of Na 1.15 in EtOH 25, fluorene (I) 8.4, and decahydronaphthalene 100 parts by wt. is heated until no more EtOH distills off. The sultone of hydroxybutanesulfonic acid (II) (7 parts) is added, and the reaction is achieved by heating at 150-80.degree.. The solvent is removed by distn., and the residue is extd. with ether to remove unreacted I. A readily water-sol. product Na 4-(9-fluorenyl)-2-butanedisulfonate 10 parts of good wetting and detergent properties is thus obtained. The sultone of hydroxypentanesulfonic acid may be used in place of II. A product of the probable formula C ₆ H ₁₃ SO ₃ .MgBr is similarly prepd. from II and EtMgBr, a product of the probable formula C ₆ H ₅ C ₄ H ₈ SO ₃ MgBr from II and PhMgBr, and a colorless hygroscopic powder from PhLi and II. Cf. preceding abstr.				

L9 ANSWER 62 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1954:14291 CAPLUS
 DN 48:14291
 OREF 48:2575c-g
 TI Application of ultrasonic waves to the preparation of organometallic compounds
 AU Renaud, Pierre
 SO Bulletin de la Societe Chimique de France (1950) 1044-5
 CODEN: BSCFAS; ISSN: 0037-8968
 DT Journal
 LA Unavailable
 AB The effect of ultrasonic waves on the prepn. of organometallic compds. of Li, Ca, Hg, Al, Be, and Zn is studied. They do not overcome the inertia of halogens in the formation of Grignard reagents. The prepn. of organo compds. of Li under the influence of ultrasonic waves takes place rapidly in Et₂O even at 66.degree. B.acte.e. but is impossible in Bu₂O. Derivs.

of Ca cannot be obtained even by aid of EtMgI. Hg emulsifies immediately in Et₂O but does not react with bromides. Al affords organo-Al compds. by reaction of an organo-Mg deriv. on Al powder; the use of Al-Mg alloy is unnecessary. Organo-Zn compds. are not obtained by an analogous reaction between RMgX and Zn in the presence of Cu. Beryllium does not resemble Al in its action. The halides of Fe, Ni, and Co give condensation reactions, catalyzed by a complex such as [CoCl₂(NH₃)₄]Cl but not by [CoCl₃(NH₃)₃]. In the production of Grignard compds. chlorides do not react, even with excitement by a bromide, except when Cl is mobile as in PhCH₂Cl. CHCl₃ and CCl₄ retain their inhibiting action. Generally, only aliphatic or aromatic iodides and bromides react within a few min. or more slowly if a solvent (Et₂O, Bu₂O) is used. EtBr and PhBr do not attack Mg in the absence of a solvent. MeCH:CHBr does not furnish an organo-Mg deriv. even in presence of HgCl₂. HC.tplbond.CHCH₂Br only gives such a deriv. in the presence of HgCl₂; the reaction is more rapid than that induced by simple heating. Mg 2-pyridyl bromide is obtained without heating but the further reaction with AcH is impossible without recourse to heat. EtMgBr, BuMgBr, and PhMgBr are obtained with the aid of ultrasonic waves in slightly aq. Et₂O or Bu₂O, contg. up to 50% of C₆H₆, light petroleum, or even palm oil.

L9 ANSWER 63 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1953:58583 CAPLUS

DN 47:58583

OREF 47:9936a-i,9937a-h

TI The reaction of organometallic compounds on quinol. I

AU Wessely, F.; Holzer, L.; Vilcsek, H.

CS Univ. Vienna

SO Monatshefte fuer Chemie (1952), 83, 1253-73

CODEN: MOCMB7; ISSN: 0026-9247

DT Journal

LA Unavailable

AB cf. Wessely and Sinwel, C.A. 45, 7545e. Reaction of RMgX (or PhLi) with an o-quinol acetate (I) unsubstituted meta to the keto group takes place by a 1,4-addn. to the C:C:C:O system, followed by splitting out of H₂O, to give a phenol with R (or Ph) in the m-position. With a p-quinol acetate (II) having a free o-or m-position to the keto group, reaction takes place by 1,2-addn., with splitting out of H₂O and migration of R or Ph; 1,4-addn. is not observed. o-PhC₆H₄OH (III) (6 g.) with 1.5 mole Pb(OAc)₄ (cf. C.A. 45, 1972b) in 800 ml. HOAc, kept 2 hrs. at room temp., evapd., the residue treated with H₂O, extd. with ether, the ext. washed with NaHCO₃, dried, and concd., and the ppt. filtered washed with cold ether gave 3.8 g. crude 2-**phenyl**-o-quinol acetate (IV) (2.5 g. from dil. alc.), m. 128-30.degree.. IV with Pd-C and H gave III. Similarly p-PhC₆H₄OH (V) gave 4-**phenyl**-p-quinol acetate (VI), m. 106-9.degree. (from ether-petr. ether), and mesidine gave 2,4,6-trimethyl-p-quinol acetate (VII), m. 56-7.degree. (from ether-petr. ether). RMgX, made in the usual way to give about a 2.5M soln. in ether, filtered from the excess Mg, added dropwise to I or II (about 0.3M soln. in ether) (to give a molar ratio of RMgX to I or II of about 4:1), the soln. heated 5-10 min. on a water bath, cooled, treated with satd. NH₄Cl, the layers sepd., the ether soln. extd. with N NaOH, and the ext. acidified and extd. with ether gave the acid fraction (A); the ether soln. gave the neutral fraction (N). The following products were thus obtained from A and/or N: With 0.64 g. 2-methyl-o-quinol acetate (VIII) and MeMgI: A, 0.15 g. o-cresol (IX) (aryloxyacetic acid, m. 152-3.degree.) and 0.05 g. 2,5-Me₂C₆H₃OH (aryloxyacetic acid, m. 114-15.degree.). With 2 g. VIII and EtMgBr: A, a little IX and 0.9 g. 2,5-MeEtC₆H₃OH (aryloxyacetic acid, m. 99-100.degree.). With 1 g. VIII and iso-BuMgBr; only IX. With 3 g.

VIII and PhMgBr: A, 1.7 g. 2,5-MePhC6H3OH(XI) (an addnl. 0.6 g. XI was obtained from N by extn. with 10% NaOH), b0.02 140-5.degree., m. 70.degree. (m. 78.degree. after long standing alone or in soln.; this melt when cooled gave the form m. 70.degree.) (the Me ether was prepd.). With 1 g. IV and MeMgI: A, 0.6 g. phenol, distd. twice at 100-10.degree./0.2 mm., to give 2,5-PhMeC6H3OH (XII) (no cryst. aryloxyacetic acid), whose constitution was verified by paper chromatography, N, 0.3 g. brown oil. With 1.74 g. 2,4,6-trimethyl-o-quinol acetate (XIII) and MeMgI: A, only mesitol (XIV); N, 0.5 g. light terpenelike oil. With 0.9 g. XIII and EtMgBr: A (and also N) 0.6 g. 2,4,6,3-Me3EtC6HOH (XV), b0.01 60-80.degree., m. 96-7.degree. (from petr. ether) (Me ether, b12 105-10.degree.). With 5 g. XIII and PhMgBr: A, only XIV; N, extd. with 10% NaOH, 1 g. 2,4,6,3-Me3PhC6HOH (?) (XVI) (C analysis, 0.65% low), b0.08 120-5.degree. [took up only 1.8 equivs. AcO with Pb(OAc)4, was not nitrated with fuming HNO3 in Ac2O-HOAc (1:1) at -10.degree., did not react with 3,5-(O2N)2C6H3COCl and ClCH2CO2H, and gave BzOH with alk. KMnO4], Ph2, Ph2C(OH)Me (XVII), and C15H16O, m. 113.degree., insol. in boiling N NaOH. With 4-methyl-p-quinol acetate (XVIII) and MeMgI: only 2,4-Me2C6H3OH (XIX). With 1.8 g. XVIII and PhMgBr: A, p-cresol, b0.1 75-80.degree., and 0.8 g. 2,4-PhMeC6H3OH (XX); N, Ph2, b0.1 80-100.degree., and from the residue after distn. of Ph2, by extn. with 10% NaOH, an addnl. 0.5 g. XX, m. 67-8.degree. (from petr. ether) (3,5-dinitro-benzoate, m. 115-16.degree.). XX, converted with Me2SO4 to the Me ether and oxidized with the calcd. amt. of 0.5N KMnO4 in Na2CO3, gave 4,3-MeOPhC6H3CO2H (XXI), b0.005 150-60.degree.. With 0.68 g. VI and MeMgI: A, 0.5 g. mixt., not sepd. by distn. at 120.degree./0.005 mm., sepd. by crystn. from ether-petr. ether to give V, m. 157-60.degree., and 0.2 g. 2,4-MePhC6H3OH (XXII), m. 112-13.degree. (many times recrystd. from petr. ether); N, distd. at 100-20.degree./0.005 mm., XXII. With 5 g. VII and EtMgBr: A, 0.2 g. XIV; N, 4.1 g. terpenelike oil. To 2.2 moles Li free of oxide, cut in small pieces, suspended in about half the abs. ether needed to make a 0.5M soln. of PhLi, cooled, stirred under dry, H-free N, was added (30 min.) 1 mole PhBr in the other half of the ether, the mixt. stirred 20 min. more, filtered, and the soln. used as reagent. I or II (0.1M) in abs. ether treated dropwise the PhLi soln. with stirring under O-free N (1 mole I or II to 5 moles PhLi), ice-cold concd. NH4Cl soln. added, the layers sepd., the aq. soln. extd. 1-2 times with ether, the ether solns. extd. with N or 10% NaOH, the alk. soln. acidified and extd. with ether gave A; the ether soln. gave N. With PhLi and 1.48 g. VIII: A, 1 g. brown oil which on distn. gave a small amt. of IX, b0.008 50.degree., and a fraction, b0.008 110-20.degree., which was taken up in C6H6, filtered (to give dark red needles, m. 108-12.degree., whose compn. was not studied), put on an Al2O3 column, and eluted with ether to give XI, m. 72.degree.; N, 2.5 g. brown oil which was distd. gave PhAc, b0.005 70.degree., and a 2nd fraction, b0.005 95-105.degree., which on redistn. gave a mixt. of XI and XVII (sepd. by removal of XI with 10% NaOH). When 1 mole PhLi and 1 mole VIII were used, two-thirds of VIII was recovered, no biphenol was isolated, and small amts. of PhAc and IX were formed. With PhLi and 1.72 g. XIII: A, a small amt. of brown oil; N, 2.5 g. somewhat cryst. substance, distd. to give PhAc, b0.1 95-110.degree., and 1.7 g. colorless liquid, b0.1 120-30.degree., giving on redistn. 1.3 g. main fraction, b0.008 95-105.degree., which was shaken with 80 ml. 10% NaOH, the resulting solid filtered, washed well with H2O, and sublimed (80-90.degree./0.008 mm.), giving 0.35 g. XVII, m. 79-80.degree.; the alk. soln. acidified, extd. with ether, the ext. dried, concd., and the residue distd., gave XVI, b0.008 105-10.degree. (with the same properties as XVI obtained from XIII and PhMgBr). With PhLi and 3.46 g. XVIII: A, XXII and a small amt. of unknown brown oil, b0.025 110-20.degree.; N; PhAc, XVII,

and XXII. 4,3-Me-(O₂N)C₆H₃NH₂.H₂SO₄ (10 g.) in 12 ml. cold HCl (1:1) diazotized with 3.5 g. NaNO₂ in 10 ml. H₂O, treated with 5 g. MgSO₄ and 40 ml. C₆H₆, 35 ml. 15% NaOH added dropwise, the mixt. dild. with C₆H₆, the layers sepd., the C₆H₆ soln. dried, concd., the residue steam-distd., the distillate extd. with ether, the ext. concd., and the residue dissolved in alc. gave on cooling in Dry Ice 4,3-Me(O₂N)C₆H₃Ph (XXIV), m. 61-2.degree.. XXIV (84 mg.) with H and Raney Ni gave 68 mg. 3-amino compd. (XXV), b0.01 110.degree., m. 54-5.degree.. XXV, diazotized and heated in 20% H₂SO₄, gave XI, b0.005 115.degree., m. 72.degree. (from petr. ether), after several days, m. 78.degree.. Acetomesitylene (6 g.) with 15 g. Zn-Hg and 60 ml. HCl (1:1) with C₆H₆ and some HOAc, refluxed 6 days, and the product heated with Na at 150.degree. and distd., gave 2,1,3,5-EtC₆H₂Me₃ (XXVI), b18 95-6.degree., nD₁₉ 1.5071. Picramide diazotized with NaNO₂ in 100% H₂SO₄ at 35-40.degree., XXVI in HOAc added dropwise, the resulting azo compd., m. 168.degree. (decompn.) (crude), heated with SnCl₂ and concd. HCl, the mixt. made basic, and the amine extd. with ether, purified by extn. in 2N HCl, distd. (b0.05 60.degree.), and treated with HCl gas in abs. ether, gave the HCl salt, m. 180.degree. (decompn.); which, diazotized in HCl (1:2), refluxed, and steam-distd., gave XV, b12 80-90.degree., m. 95-7.degree.. Ph₂ nitrated to a mixt. of o- and p-nitro compds., the p-isomer, m. 114.degree., sepd. from the o-isomer, m. 35-6.degree. (which was purified by chromatography, the 1st fraction being eluted with alc.). The p-isomer with Raney Ni and H gave 100% p-PhC₆H₄NH₂ (XXVII), m. 48-9.degree.. To 15 g. XXVII.HCl in 90 ml. HOAc and 90 ml. abs. dioxane, stirred and cooled in an ice-salt bath, was added (1 hr.) excess EtONO, the resulting diazo salt treated at 0.degree. with concd. aq. urea until N evolution ceased, warmed on a water bath as more N evolved slowly, the mixt. heated 2 hrs. on a steam bath, cooled, extd. with ether, the phenol purified by extn. with 10% NaOH, pptn. with acid, and reextn. with ether, and the ext. washed, dried, and concd., giving 6-7 g. V, m. 162-4.degree. (from petr. ether). V (5 g.) refluxed 3 hrs. with 6.25 g. CHCl₃, 6.25 g. NaOH, and 156 ml. H₂O, the mixt. filtered hot (the filter cake gave unchanged V), and the filtrate acidified, gave crude 3,6-Ph(HO)C₆H₃CHO (XXVIII), m. 85-95.degree., purified by 2 chromatographs on acid-Al₂O₃, eluted with C₆H₆ (XXVIII was in the 1st eluate) and recrystn. from ether-petr. ether, m. 99-100.degree.. XXVIII (0.2 g.) refluxed 5 hrs. with 1.5 ml. alc., 0.6 ml. HOAc, 6 ml. HCl(1:2), and 0.2 g. Zn-Hg, dild. to twice the vol. with H₂O, extd. 4 times with ether, the ext. dried and concd., and the residue sublimed at 110-20.degree./0.005 mm., gave XXII, m. 113-14.degree.. 3,4-Ph(MeO)C₆H₃Ac (Slotta and Nold, C.A. 30, 2944.4) and Br in NaOH soln. (Johnson, et al., C.A. 40, 7172.1) gave 95% XXI, m. 219-21.degree.. Rf values (in C₆H₆) are given for III 0.84, XII 0.85, XX 0.85, V 0.49, XXII 0.66, and XI 0.66. Ultraviolet absorption curves are given for XVI, XI, XX, XIV and its Me ether, and XV and its Me ether.

L9 ANSWER 64 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1952:11360 CAPLUS

DN 46:11360

OREF 46:2009f-i

TI The reaction of trimethylene oxide with Grignard reagents and organolithium compounds

AU Searles, Scott

CS Northwestern Univ., Evanston, IL

SO Journal of the American Chemical Society (1951), 73, 124-5

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB Dropwise addn. of 60 g. $\text{Cl}(\text{CH}_2)_3\text{OAc}$ during 45 min. to 65 g. NaOH , 65 g. KOH , and 5 g. H_2O at 150-60.degree. and purification (cf. Noller, C.A. 44, 2443i) gave 42-5% $(\text{CH}_2)_3\text{O}$ (I). General procedure: addn. of 0.13-0.20 mole I in 3 vols. anhyd. Et_2O to 0.18-0.30 mole RMgX (or RLi occasionally) in cold Et_2O (formation of a white ppt.), refluxing 1 hr., addn. of 150-200 cc. C_6H_6 , removal of the Et_2O by distn., refluxing 4 hrs., cooling, hydrolysis with satd. NH_4Cl , extn. with Et_2O or CCl_4 , and distn. of the org. solns. gave the desired $\text{R}(\text{CH}_2)_3\text{OH}$ (II), characterized generally as the 3,5-dinitrobenzoate or the 1-naphthylurethan. Data (read R and % yield II): Ph, 84% (also 4% $\text{Br}(\text{CH}_2)_3\text{OH}$) (III); Ph, 85% from PhLi ; 1- C_{10}H_7 , 80%; 2- C_{10}H_7 , 60%; 9-fluorenyl, 44% from RLi ; PhCH_2 , 83%; Bu, 28% from BuLi ; cyclohexyl, 28% II, also 40% III; Me_2CH , 28% II and 12% III; Me_3C , 37% $\text{Cl}(\text{CH}_2)_3\text{OH}$. Data for new II (read b.p. and n_{D}^{20}): 1- C_{10}H_7 , b1 118-19.degree., 1.615 (phenylurethan, m. 75-6.degree.); 2- C_{10}H_7 , b7 120-1.degree. (phenylurethan, m. 94.degree.); 9-fluorenyl, b0.2 141.degree. (1-naphthylurethan, m. 124-5.degree.). III was prepd. in 54% yield from 0.2 mole I and 0.5 mole anhyd. MgBr_2 .

L9 ANSWER 65 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1948:713 CAPLUS

DN 42:713

OREF 42:147h-i,148a

TI Mechanism of addition of Grignard reagents to nitriles

AU Swain, C. Gardner

CS Massachusetts Inst. Technol., Cambridge

SO Journal of the American Chemical Society (1947), 69, 2306-9

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB The reaction of BuMgBr and PhCN in ether was followed by measuring the evolution of gas from aliquot samples taken periodically from the reacting soln. It is homogeneous and 2nd order with a rate const. of 3.7 ± 0.6 .times. 10^{-4} l. mole $^{-1}$ sec. $^{-1}$ at 25.degree. and 5.8 ± 0.9 .times. 10^{-5} at 0.degree.. This corresponds to a half-life of 7.6 hrs. with 0.1 M reactants at 25.degree. and to an activation energy of 12 ± 1 kcal. The observed kinetic order is consistent with a suggested mechanism involving as its rate-detg. step the intramol. rearrangement of a complex, present in a low concn. in rapid equil. with the organometallic reagent and addend. PhLi and PhMgBr show at least a 100-fold difference in reactivity with PhCN .

L9 ANSWER 66 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1946:27676 CAPLUS

DN 40:27676

OREF 40:5418e-i,5419a-d

TI Method of reaction of metallo-organic compounds. VI. The reaction between organometallic compounds and ethers or thio ethers

AU Luttringhaus, Arthur; Saaf, Grete Wagner-v.; Sucker, Elfriede; Borth, Gunther

SO Ann. (1945), 557, 46-69

DT Journal

LA Unavailable

AB $\text{PhOCH}_2\text{CH}_2\text{CH}_2$ (9 g.), added to Ph_2Mg (prepd. by concg. 150 cc. of a 0.38 M soln. until the b.p. is 75.degree.) and boiled 6 hrs., gives 4.9 g. PhOH and 5.3 g. of $\text{CH}_2\text{:CHCH}_2\text{Ph}$. Octanol (26 g.) and 4.8 g. Na in 60 cc. PhMe , boiled until soln. is complete and then boiled 8 hrs. with 35 g. $\text{CH}_2\text{:CHCH}_2\text{Br}$, give octyl allyl ether (I), b12 87-8.degree.; I (17 g.) and 0.12 M PhMgBr , heated 6 hrs. at 75.degree., give 85% of $\text{CH}_2\text{:CHCH}_2\text{Ph}$ and

70.5% of octanol (isolated as the benzoate). BuSCH₂CH:CH₂ (II) (10 g.) and 1.8 equivs. of PhMgBr, heated 9 hrs. at 74.degree., give 9 g. of unchanged II; 2 equivs. of BuMgBr, heated 9 hrs. at 80-6.degree., gives 91% of unchanged II. PhSCH₂CH:CH₂ (III) (15 g.) and 0.13 mole PhMgBr, heated 6 hrs. at 78.degree., give 48% PhCH₂CH:CH₂ and 6 g. of III, together with 35% of PhSH. p-CH₂:CHCH₂OC₆H₄Ac (17.6 g.) in 20 cc. ether, added dropwise to PhMgBr (from 40 g. PhBr, 6 g. Mg, and 90 cc. ether) and boiled 4 hrs., gives 8 g. PhCH₂CH:CH₂ and 13.5 g. (70%) of p-hydroxy-1,1-diphenylethylene, b_{0.03} 114-16.degree., m. 56.degree. (benzoate, m. 79.degree.); Me₂SO₄ gives the known Me ether, m. 75.degree.. m-BrC₆H₄OCH₂CH:CH₂ (2.13 g.) with 10 g. activated Mg in 30 cc. ether, refluxed 8 hrs. and the product decompd. with dil. AcOH, gives 4.2 g. of m-CH₂:CHCH₂C₆H₄OH, b₁₃ 108-15.degree. (characterized as the Me ether, b₁₂ 90-3.degree., d₂₀ 1.0992, which is oxidized to m-MeOC₆H₄CO₂H). PhOCH₂Ph (IV) is relatively stable toward Grignard reagents. With PhLi in ether (2 hrs. at 20.degree., after which the soln. is added to solid CO₂), 11 g. of IV yields 7 g. unchanged IV, 1.5 g. Ph₂CHCH₂Ph, 0.8 g. BzOMe, and 0.6 g. Ph₂CHCO₂Me (prepd. from the intermediate Ph₂C(CO₂H)₂); after 5 hrs. at 20.degree. the products include 2.5 g. Ph₂CHCH₂Ph, 0.6 g. BzOMe, and 1.4 g. Ph₂CHCO₂Me. No Ph₂CHCH₂Ph is formed at 0.degree. in 0.5 hr. Ph₂CH₂ (0.1 mole) and 75 cc. N PhLi in ether, allowed to stand 5 hrs. at 20.degree. and the soln. decompd. with CO₂, give 4.8 g. Ph₂C(CO₂Me)₂, m. 93-4.degree.; after heating with PhLi for 6 hrs. at 55.degree., 60% of Ph₂CH₂ is unreacted. A preparative method for Ph₂C(CO₂H)₂ consists in heating Ph₂CH₂ with 2 mols. of PhLi for 6 hrs. at 80.degree., followed by decompn. with CO₂. PhOBu and PhNa in ether, shaken 24 hrs. at room temp. and warmed 6 hrs. at 55.degree., give only 47% PhOH. Ph dodecyl ether (V) (39.3 g.) and PhNa (from 0.25 mole PhCl), shaken 20 hrs. at room temp. and warmed 8 hrs. at 60.degree., give 78% of 2-dodecene (VI), b₁₃ 96-7.5.degree., some Ph₂, 8.5 g. PhOH, and 0.9 g. of a fraction b_{0.9} 180-210.degree. (not studied). VI (9 g.), treated at 3.degree. with BzO₂H and the oxide boiled 6 days with 20 cc. dioxane and 30 cc. H₂O, gives 3.5 g. of 2,3-dihydroxydecane (VII), m. 68-9.degree.; with Pb(OAc)₄ VII yields AcH; the mother liquor from VII yields a mixt. of HCHO and AcH; thus VI consists of approx. 40% of 1- (VIII) and 60% of 2-dodecene. If the Na complex from V is decompd. with CO₂, and the fraction b_{0.25} 125-30.degree. reduced over Raney Ni at 25.degree., there results C₁₂H₂₅CO₂H, m. 41.degree.. Synthetic VIII (17 g.) and iso-AmNa (from 55 g. iso-AmCl and 30 g. Na) in 100 cc. cyclohexane, shaken 20 hrs. at room temp. and 8 hrs. at 60.degree., and the product decompd. with CO₂, give 5.5 g. of unchanged VIII and 13.8 g. of an acid fraction which, after reaction with CH₂N₂ yields 4.8 g. of a mixt. of Me tridecanoates; hydrogenation and fractionation yield 1.6 g. of C₁₂H₂₅CO₂H and 1.9 g. of Me 1-ethylhendecanoate, b_{0.03} 95-6.degree., whose amide m. 105.degree. (the synthesis from EtCK(CO₂Et)₂ and C₉H₁₉Br is reported). Ph₂S (23 g.) and PhNa (from 17 g. PhCl) in 80 cc. C₆H₆, shaken 10 hrs. at room temp. and heated 30 hrs. at 70.degree., give 3.3 g. PhSH, 4.8 g. Ph₂S, 7.7 g. (C₆H₄)₂S, and 2.8 g. of a resin. Ph₂S (5.2 g.) and 50 cc. 0.5 N PhLi in Pr₂O, heated 170 hrs. at 80.degree., give 4.1 g. Ph₂S and 0.59 g. (C₆H₄)₂S. Ph₂O and Ph₃CNa give CPh₄. (C₆H₄)₂O and (C₆H₄)₂S are not affected by long heating with PhNa at 70-80.degree.. The mechanism of these reactions is discussed.

L9 ANSWER 67 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1943:19064 CAPLUS

DN 37:19064

OREF 37:3079c-e

TI Factors determining the course and mechanism of Grignard

reactions. IX. The effect of metallic halides on the reaction of organolithium compounds with organic halides

AU Kharasch, M. S.; Lewis, Daniel W.; Reynolds, W. B.

SO Journal of the American Chemical Society (1943), 65, 498-500

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB Details are given of the reaction of PhBr with PhLi, BuLi and BuMgBr in the absence of CoCl₂ and in the presence of 5 mole-% of CoCl₂ and also of BuBr on PhLi and Bu-MgBr under the same conditions. The coupling reaction, which predominates in the uncatalyzed reaction, is almost completely suppressed. The products from PhLi and BuBr may be readily accounted for by a chain mechanism in which a cobalt subhalide acts as the chain carrier. The differences between the final products in the expts. with Li and Mg are readily accounted for by the metathetical equil. which has been observed in the case of the Li compds. However, this does not explain the formation of octane in the Li expts. and its absence in the Mg expts.

L9 ANSWER 68 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1941:47679 CAPLUS

DN 35:47679

OREF 35:7368a-f

TI Factors determining the course and mechanisms of **Grignard**

reactions. IV. The effect of metallic halides on the reaction of al Grignard reagents and organic halides

AU Kharasch, M. S.; Fields, E. K.

SO Journal of the American Chemical Society (1941), 63, 2316-20

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB Co does not react with PhBr at 40.degree. after 1 hr. PhMgBr (I) gives 6-8% of Ph₂ (II). I (0.14 mole) and 9 mol.% of CoCl₂ (III) give 27% II; in the following the figure before the metal halide is mol.%; 0.54 mole I, 0.4 mole PhBr (IV) and 7 III give 83% II; 0.113 mole I, 0.1 mole IV and 2.5 III give 86% II. IV takes part in this reaction, as can be demonstrated by a halogen titration of the aq. soln. obtained by hydrolysis of the reaction mixt. after the reaction has ceased and by the fact that only a portion of IV can be recovered; thus, IV acts as an oxidizing agent in converting I into II. The II is formed exclusively from I because IV can be replaced by p-BrC₆H₄Me (with 9 III 86% II), EtBr (with 7 III 81% II) or iso-PrCl (with 5 III 58% II). The org. radical of IV is responsible for the formation of higher-boiling compds.; thus, 0.54 mole I, 0.4 mole II and 7 III in ether (heated 2 hrs.) give 18 g. C₆H₆, 34.5 g. Ph₂, 1.7 g. terphenyl, 0.8 g. quaterphenyl and 17.5 g. very high-boiling material; such compds. are not found with aliphatic halides. PhCl (4 III) gives only 37% II. PhMgI and 28 III in ether-C₆H₆ at 0.degree. for 3 hrs. give 64% II; with 0.1 mole IV, 4 III gives 86% II. With I and IV other metal halides give the following results: 9 CuCl 6% II, 4 MnCl₂ 21% II, 5 FeCl₃ 47% II, 4 NiCl₂ 72% II, 4 CrCl₃ 7% II. Other reactions were also studied; thus, p-MeC₆H₄MgBr and IV with 10 III give 95% (p-MeC₆H₄)₂; o-MeC₆H₄MgBr and EtBr with 7 III give 75% of (o-MeC₆H₄)₂; p-MeOC₆H₄MgBr and EtBr with 5 III give 76% of (p-MeOC₆H₄)₂; o-EtOC₆H₄MgBr and EtBr with 5 III give 74% of (o-EtOC₆H₄)₂. It is believed that these reactions proceed through the agency of a Co subhalide, the active chain carrier; suggested reactions are: I + III .fwdarw. PhCoCl + MgBrCl; 2PhCoCl .fwdarw. Ph₂ + 2CoCl; CoCl + PhBr .fwdarw. CoClBr + Ph-; x(Ph-) .fwdarw. C₆H₆, Ph₂, C₆H₄Ph₂, (6H₄Ph)₂, etc. These equations are used to

explain the results obtained in part III. The data point to a definite relation between the electronegativity of the org. radical, the stability of the intermediate organometallic compd. and the rate of the normal addn.

L9 ANSWER 69 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1939:41310 CAPLUS
DN 33:41310
OREF 33:5823b-f
TI The reactions of ald-chlorimines with Grignard reagents
AU LeMaistre, J. W.; Rainsford, A. E.; Hauser, Charles R.
SO Journal of Organic Chemistry (1939), 4, 106-10
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA Unavailable
AB A study is made of the reactions taking place with ald-chlorimines (I) and Grignard reagents. Three different types of reactions can be involved, i. e., an elimination of HCl, a reaction in which the NCl group is attacked, or an addn. to the C:N bond. It was previously shown that EtONa and I in certain cases give nitriles in quant. yield. With Grignard reagents the first 2 types of reactions, with the 2nd predominating, take place. In general 0.025-0.07 mol. I prepd. according to H. and co-workers (C. A. 29, 2939.2) is dissolved in 100-200 cc. dry Et2O and the soln. in most cases cooled to 0.degree. and the RMgX is added drop by drop. After standing for a few hrs. the mixt. is filtered and hydrolyzed. An analysis of the filtrate for active Cl shows that about 10% of I remains which is converted into the aldehyde by HCl. The Et2O soln. is then allowed to stand with a satd. NaHSO3 soln. for 24-36 hrs., the aldehyde-bisulfite compd. filtered and the aldehyde liberated with Na2CO3. Evapn. of the Et2O soln. gives the nitrile. The following benzalchlorimines have been used with EtMgBr (II) or PhMgBr (III), resp., and give the following resp. % of nitriles and RCH:NMgX derivs: 2-chlorobenzal compd. and II, 13% and 43%; 4-MeO compd., 17% and 50%; the 4-Cl compd. at 0.degree. 20% and 45%, at 23-8.degree. 34% and 45%, with III 10% and 61%, with p-ClC6H4MgBr 5% and 18% in addn. to 20% PhCl and 25% p-C6H4Cl2. PhLi and 4-chlorobenzalchlorimine react to give the nitrile and a N-Li compd. which on hydrolysis yields the aldehyde. The mechanism of the various types of reactions is discussed.

L9 ANSWER 70 OF 70 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1939:41261 CAPLUS
DN 33:41261
OREF 33:5804f-h
TI Synthesis of primary amines by the reaction of .alpha.-methylhydroxylamine with organomagnesium and organolithium compounds
AU Sheverdina, N. I.; Kocheshkov, K. A.
SO Zhurnal Obshchei Khimii (1938), 8, 1825-30
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Unavailable
AB RMgX and RLi in ether soln. at a temp. of -10.degree. to -15.degree. react readily with MeONH2 (I) to give primary amines. The yield depends on the nature of X, decreasing sharply from Cl to I, and is practically independent of the nature of R. The following compds. were reacted with I: EtMgBr, iso-AmMgCl, iso-AmMgI, sec-BuMgCl, tert-BuMgCl, PhMgCl, PhMgI, p-BrC6H4MgBr and PhLi. The yields of RNH2 were resp. 66.6, 80.1, 71.4, 5.3, 73.4, 73.6, 65.0, 0.23, 72.5 and 63.0%.

=> d his

(FILE 'HOME' ENTERED AT 16:14:11 ON 24 SEP 2003)

FILE 'REGISTRY' ENTERED AT 16:14:32 ON 24 SEP 2003

L1 STRUCTURE UPLOADED

L2 210 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 16:15:16 ON 24 SEP 2003

L3 309 S L2

L4 0 S L3 AND SYN THESIS AND PREPARATION

L5 48 S L3 AND SYNTHESIS

L6 3 S L5 AND LITHIUM

L7 2 S L5 AND MAGNESIUM

L8 194 S GRIGNARD REACTION AND LITHIUM AND MAGNESIUM

L9 70 S L8 AND PHENYL

L10 30 S L8 AND PHENYL AND CHLORIDE

L11 10 S L8 AND PYRIDINE

L12 1 S L8 AND PYRIMIDINE

L13 0 S L8 AND PYRIDAZINE

L14 2 S L8 AND FURAN

L15 1 S L8 AND THIEN

L16 84 S L8 AND CHLORIDE

L17 0 S L16 AND PHENYL AND PYRIDINE AND FURAN AND THIEN AND PYRIMIDIN

L18 0 S L8 AND PYRIDINE AND CHLIRIDE

L19 1 S L8 AND PYRIMIDINE AND CHLORIDE

L20 1 S L8 AND FURAN AND CHLORIDE

L21 1 S L8 AND THIEN AND CHLORIDE

=> d l19 fib hitstr abs total

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DMAX ----- MAX, delimited for post-processing

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FBIB ----- AN, BIB, plus Patent FAM

IND ----- Indexing data

IPC ----- International Patent Classifications

MAX ----- ALL, plus Patent FAM, RE

PATS ----- PI, SO

SAM ----- CC, SX, TI, ST, IT

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e.g., D SCAN or DISPLAY SCAN)

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IABS ----- ABS, indented with text labels

IALL ----- ALL, indented with text labels

IBIB ----- BIB, indented with text labels

IMAX ----- MAX, indented with text labels

ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)

OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations

SIBIB ----- IBIB, no citations

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containing hit terms

HITRN ----- HIT RN and its text modification

HITSTR ----- HIT RN, its text modification, its CA index name, and
its structure diagram

HITSEQ ----- HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields

FHITSTR ----- First HIT RN, its text modification, its CA index name, and
its structure diagram

FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
structure diagram, plus NTE and SEQ fields

KWIC ----- Hit term plus 20 words on either side

OCC ----- Number of occurrence of hit term and field in which it occurs

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L19 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1962:403839 CAPLUS

DN 57:3839

OREF 57:728d-i,729a-g

TI Reactions of .alpha.-dimethylaminophenylacetonitrile and its ethylation
product with basic or nucleophilic reagents

AU Morris, Gene F.; Hauser, Charles R.

CS Duke Univ., Durham, NC

SO Journal of Organic Chemistry (1962), 27, 465-71
CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA Unavailable

=> d 120 fbib hitstr abs total

L20 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:247788 CAPLUS

DN 114:247788

TI Peptide derivatives preparation as retroviral protease inhibitors

IN Kempf, Dale J.; Plattner, Jacob J.; Norbeck, Daniel W.; Boyd, Steven A.;
Baker, William R.; Erickson, John W.; Fung, Anthony K. L.; Crowley, Steven
R.

PA Abbott Laboratories, USA
 SO PCT Int. Appl., 222 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

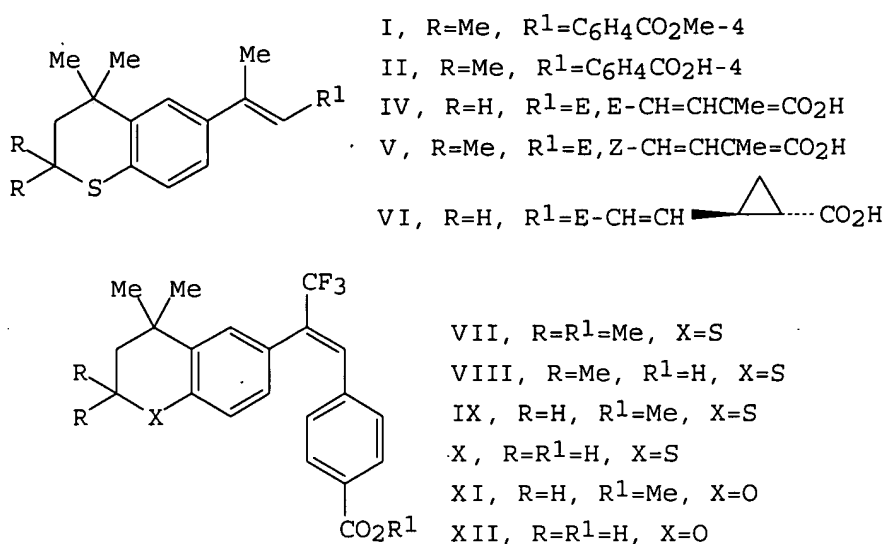
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PI	WO 8910752	A1	19891116	WO 1989-US2055	19890512
	W: AU, DK, JP, KR, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	EP 342541	A2	19891123	US 1988-194678	19880513
	EP 342541	A3	19911106	EP 1989-108590	19890512
	R: ES, GR				
				US 1988-194678	19880513
	AU 8935660	A1	19891129	AU 1989-35660	19890512
				US 1988-194678	19880513
				WO 1989-US2055	19890512
	EP 415981	A1	19910313	EP 1989-905856	19890512
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
				US 1988-194678	19880513
				WO 1989-US2055	19890512
	JP 03504247	T2	19910919	JP 1989-506033	19890512
				US 1988-194678	19880513
				WO 1989-US2055	19890512

OS MARPAT 114:247788

AB Peptide derivs. are prepd. as retroviral protease inhibitors. Synthetic processess involved carbodiimide coupling, or coupling in combination with deprotection, and reaction with mixed anhydrides. Thus, N-methyl-1-cyclohexenecarboxamide was treated with BuLi in THF, treated with ClTi(OPr-iso)3, and then Boc-phenylalaninal to give N-methyl-6-[2-(tert-butoxycarbonyl)amino-1-hydroxy-3-phenyl]propyl-1-cyclohexenecarboxamide. This was then deprotected with HCl in dioxane to give N-methyl-6-(2-amino-1-hydroxy-3-phenylpropyl)-1-cyclohexenecarboxamide-HCl (I). I was coupled with Boc-Leu-Asn in the presence of 180-BuO2CCl to give the amide.

=> d 121 fbib hitstr abs total

L21 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1991:114595 CAPLUS
 DN 114:114595
 TI Novel heteroarotinoids: synthesis and biological activity
 AU Spruce, Lyle W.; Gale, Jonathan B.; Berlin, K. Darrell; Verma, A. K.; Breitman, Theodore R.; Ji, Xinhua; Van der Helm, Dick
 CS Dep. Chem., Oklahoma State Univ., Stillwater, OK, 74078, USA
 SO Journal of Medicinal Chemistry (1991), 34(1), 430-9
 CODEN: JMCMAR; ISSN: 0022-2623
 DT Journal
 LA English
 OS CASREACT 114:114595
 GI



AB Thirteen heteroarotinoids were synthesized. The key step in each prepn. was the condensation of the appropriate chroman-, thiochroman-, or benzothienyl-substituted phosphorus ylide, obtained from the independent synthesis of the corresponding phosphonium salts, with selected polyene-substituted aldehyde esters. Screening of the compds. was with one of two assays. One assay measured the ability of a retinoid to inhibit the phorbol ester induced increase of mouse epidermal ornithine decarboxylase (ODC) activity. The other assay measured retinoid-induced differentiation of the human myeloid leukemia cell line HL-60. In the ODC assay, all thirteen compds. were screened. The most active heteroarotinoids were ester I and the acid II. Both of these retinoids had ID₅₀ values (dose required for half-maximal inhibition of phorbol ester induced ODC activity) of about 0.3 nmol. In comparison, the ID₅₀ value for trans-retinoic acid III was 0.12 nmol while the ID₅₀ values for acids IV and V were about 3.5 nmol. Heteroarotinoids VI and VII-XII had ID₅₀ values of 35 nmol or greater. With a thiochroman unit, the most active acids in decreasing order of activity in the ODC assay were II > V > VI. Thus, simple replacement of the terminal propenyl system [C(16,17,18)] in IV with a cyclopropyl group produced acid VI with markedly reduced activity. With a benzoic acid group as part of the structure attached to the thiochroman unit, the ODC activity was enhanced as shown in I and II. The combination of the 2,2,4,4-tetramethylthiochroman group and the benzoic acid (or ester) terminal group seemed to enhance the biol. action which resembles that found with (E)-4-[2-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)-1-propenyl]benzoic acid, a well-known model system. Replacing the protons with fluorine in the C(12) Me group in the side chain and altering the orientation of the aryl groups around the double bond from anti to syn lowered ODC activity in both the thiochroman- and chroman-contg. systems. Esters VII and IX and acid VIII were essentially inactive while acid X exhibited a high ID₅₀ in the ODC assay. In the chroman family, both ester XI and acid XII had unfavorable ID₅₀ values. Since acid VIII differs only slightly from acid X [the latter is devoid of the geminal di-Me group at C(2)] and acid X differs only slightly from acid XII, possibly the nature of the heteroatom and the stereochem. at the .alpha. position may play important roles in regulating activity, but more examples are required to

establish a trend. Changing the ring size from a fused six-six system to a five-six system led to ester Me (E)-4-[2-(2,3-dihydro-3,3-dimethylbenzo[b]thien-5-yl)-1-propenyl]benzoate (XIII) and acid (E)-4-[2-(2,3-dihydro-3,3-dimethylbenzo[b]thien-5-yl)-1-propenyl]benzoic acid (XIV), resp. In sep. expts. from those with of I-XII and known compds both XIII and XIV exhibited similar inhibition of ODC activity to that of III at the 34 nmol level. The ID50 values of XIV and XIV were, however, 10 and 200 times greater than that of III resp. In view of the toxicity of III, ester XIII may hold promise in chemotherapy. Of eight heteroarotinoids examd. in the HL-60 assay system, only acid IV displayed modest activity. This acid had an ED50 value (dose required for half-maximal effect) of 500 nM. In comparison, the ED50 for III was 50 nM. All of the other heteroarotinoids had ED50 values which were greater than 1000 nM.

=> log y

COST IN U.S. DOLLARS

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539.24

687.60

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NEWS 11	AUG 15	PCTGEN: one FREE connect hour, per account, in September 2003
NEWS 12	AUG 15	RDISCLOSURE: one FREE connect hour, per account, in September 2003
NEWS 13	AUG 15	TEMA: one FREE connect hour, per account, in September 2003
NEWS 14	AUG 18	Data available for download as a PDF in RDISCLOSURE
NEWS 15	AUG 18	Simultaneous left and right truncation added to PASCAL
NEWS 16	AUG 18	FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation
NEWS 17	AUG 18	Simultaneous left and right truncation added to ANABSTR
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NEWS EXPRESS		April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
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DICTIONARY FILE UPDATES: 23 SEP 2003 HIGHEST RN 591719-82-3

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<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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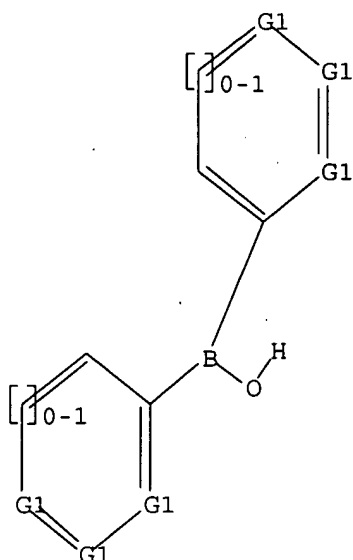
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L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR



G1 C,O,S,N,CH,NH

Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SEARCH INITIATED 13:07:46 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 1007 TO ITERATE

99.3% PROCESSED 1000 ITERATIONS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

11 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 18237 TO 22043
PROJECTED ANSWERS: 22 TO 420

L2 11 SEA SSS SAM L1

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FULL SCREEN SEARCH COMPLETED - 19899 TO ITERATE

100.0% PROCESSED 19899 ITERATIONS
SEARCH TIME: 00.00.01

210 ANSWERS

L3 210 SEA SSS FUL L1

=> file caplus

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FULL ESTIMATED COST

148.15

148.57

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FILE COVERS 1907 - 24 Sep 2003 VOL 139 ISS 13
FILE LAST UPDATED: 23 Sep 2003 (20030923/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L4 309 L3

=> s l4 and phenyl

L5 53 L4 AND PHENYL

=> s l4 and pyridine

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=> s l4 and pyridazine

L7 0 L4 AND PYRIDAZINE

=> s l4 and pyrimidine

L8 0 L4 AND PYRIMIDINE

=> s l4 anf furan

MISSING OPERATOR L4 ANF

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

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L9 1 L4 AND FURAN

=> s l4 and thien

L10 1 L4 AND THIEN

=> s l5 and l6

L11 6 L5 AND L6

=> s l9 and l10

L12 0 L9 AND L10

=> d his

(FILE 'HOME' ENTERED AT 13:06:34 ON 24 SEP 2003)

FILE 'REGISTRY' ENTERED AT 13:07:23 ON 24 SEP 2003

L1 STRUCTURE UPLOADED
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 L3 210 S L1 SSS FULL

FILE 'CAPLUS' ENTERED AT 13:08:00 ON 24 SEP 2003

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 L5 53 S L4 AND PHENYL
 L6 37 S L4 AND PYRIDINE
 L7 0 S L4 AND PYRIDAZINE
 L8 0 S L4 AND PYRIMIDINE
 L9 1 S L4 AND FURAN
 L10 1 S L4 AND THIEN
 L11 6 S L5 AND L6
 L12 0 S L9 AND L10

=> d l4 fbib hitstr abs total

L4 ANSWER 1 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2003:570785 CAPLUS
 DN 139:122461
 TI Cosmetic or dermatological preparations containing antioxidants and boron
 compounds for preventing damages to skin caused by peroxides
 IN Jentzsch, Axel; Haremza, Sylke; Wagenblast, Gerhard
 PA BASF Aktiengesellschaft, Germany
 SO PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DT Patent
 LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003059312	A2	20030724	WO 2003-EP14	20030103
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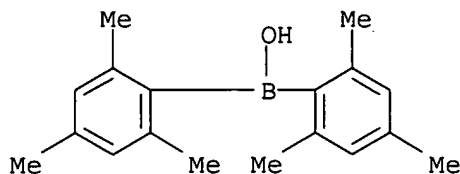
OS MARPAT 139:122461

IT 20631-84-9

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
 (cosmetic or dermatol. preps. contg. antioxidants and boron compds.
 for preventing damages to skin caused by peroxides)

RN 20631-84-9 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB The invention relates to cosmetic or dermatol. preps. that are characterized by having a content of: (a) at least one antioxidant that acts as an O- or C-radical scavenger, and; (b) at least one org., boron-contg. compd. that reduces the peroxides or hydroperoxides to the corresponding alcs. without forming active radical in subsequent stages. Thus a soft skin fluid contained (wt./wt.%): Ceteareth-6 and stearyl alc. 2.50; Ceteareth-25 2.50; hydrogenated coco glycerides 1.50; PEG-40 dodecyl glycol copolymer 3.00; dimethicone 3.00; penethyl dimethicone 2.00; cyclodimethicone 1.00; cetearyl octanoate 5.00; avocado oil 1.00; sweet almond oil 2.00; wheat germ oil 0.80; panthenol 1.00; phytantriol 0.20; tocopheryl acetate 0.30; propylene glycol 5.00; benzeneboronic acid 1.00; sodium ascorbyl phosphate 2.00; perfume, preservative q.s., water to 100.

L4 ANSWER 2 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:463809 CAPLUS

DN 139:180104

TI Synthesis and Reactivity of (C₆F₅)₃B-N-Heterocycle Complexes. 1.
Generation of Highly Acidic sp³ Carbons in Pyrroles and Indoles

AU Guidotti, Simona; Camurati, Isabella; Focante, Francesca; Angellini, Luca; Moscardi, Gilberto; Resconi, Luigi; Leardini, Rino; Nanni, Daniele; Mercandelli, Pierluigi; Sironi, Angelo; Beringhelli, Tiziana; Maggioni, Daniela

CS Centro Ricerche G. Natta, Basell Polyolefins, Ferrara, I-44100, Italy

SO Journal of Organic Chemistry (2003), 68(14), 5445-5465

CODEN: JOCEAH; ISSN: 0022-3263

PB American Chemical Society

DT Journal

LA English

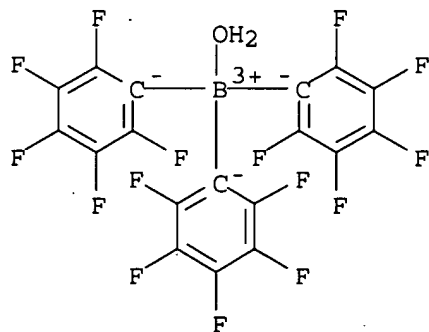
IT **155962-45-1P**, (Aqua)tris(pentafluorophenyl)boron

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(nitrogen heterocycle coordination; prepn. and acidity of tris(pentafluorophenyl)borane adducts of nitrogen heterocycles)

RN 155962-45-1 CAPLUS

CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



IT 578731-99-4 578732-00-0

RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)

(optimized geometry, total energy; prepn. and acidity of tris(pentafluorophenyl)borane adducts of nitrogen heterocycles)

RN 578731-99-4 CAPLUS

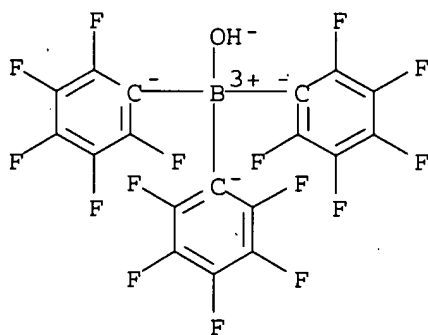
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with 3H-indole (1:1) (9CI) (CA INDEX NAME).

CM 1

CRN 147892-17-9

CMF C18 H B F15 O . H

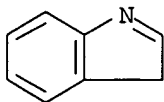
CCI CCS

● H⁺

CM 2

CRN 271-26-1

CMF C8 H7 N



RN 578732-00-0 CAPLUS

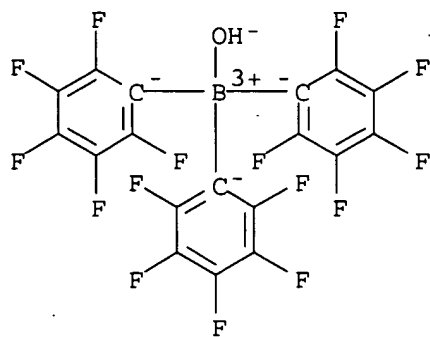
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with 2H-pyrrole (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 147892-17-9

CMF C18 H B F15 O . H

CCI CCS



CM 2

CRN 287-97-8

CMF C4 H5 N



AB The reaction of pyrroles and indoles with $B(C_6F_5)_3$ and BCl_3 produces 1:1 complexes contg. highly acidic sp^3 carbons and B--N⁺ betaine fragment, which are the results of NH-proton migration to adjacent carbon atom. Reaction of $B(C_6F_5)_3$ with 2-R1-3-R3-5-R2-1H-pyrrole gave B--N⁺ betaine 2-R1-3-R3-5-R2-2H-pyrrole-1-[tris(pentafluorophenyl)borane] adducts (1, 3-5; R1, R2, R3: H, H, H; Me, Me, H; H, Me Me; H, Et, H), the same reaction of 2-R4-3-R5-5-R6-1H-indole afforded 2-R4-3-R5-5-R6-3H-indole-1-[tris(pentafluorophenyl)borane] (2, 7-9, 11; R4, R5, R6: H, H, H; Me, H, H; H, Me, H; H, H, OMe; H, H, Cl). 3-[Tris(pentafluorophenyl)borane]-1H-imidazole (17) and 2-[tris(pentafluorophenyl)borane]-1H-pyrazole (18) adducts were also prepd., the latter gave deprotonation product, the triethylammonium [tris(pentafluorophenyl)](1H-pyrazol-1-yl)borate (18a). The mechanism of the new formal N-to-C hydrogen shift is discussed. For the complexes 2, 4, 5, 7 and 8, restricted rotation around the B-N bond and/or the B-C bonds was obsd. by NMR techniques, and rotational barriers for 2, 4 and 7 were calcd. from exptl. data. The acidity of the sp^3 carbons in these complexes is shown by their ability to protonate NEt_3 , with formation of pyrrolyl- and indolyl-borate ammonium salts. The driving force for this reaction is given by the restoration of the aromaticity of the heterocycle.

RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

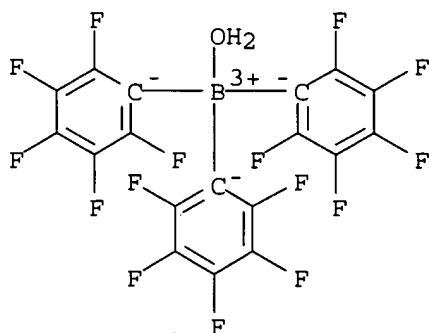
L4 ANSWER 3 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:404013 CAPLUS

DN 139:133072

TI Ring-Opening Reactions of Nonactivated Aziridines Catalyzed by
Tris(pentafluorophenyl)borane

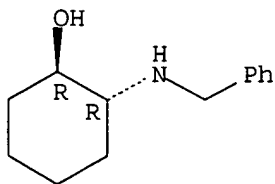
AU Watson, Iain D. G.; Yudin, Andrei K.
 CS Davenport Research Laboratories, Department of Chemistry, The University of Toronto, Toronto, ON, M5S 3H6, Can.
 SO Journal of Organic Chemistry (2003), 68(13), 5160-5167
 CODEN: JOCEAH; ISSN: 0022-3263
 PB American Chemical Society
 DT Journal
 LA English
 IT **568599-28-0P**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (crystal structure of aminocyclohexanol-tris(pentafluorophenyl)borane complex, prepd. as intermediate in ring-opening of nonactivated aziridines)
 RN 568599-28-0 CAPLUS
 CN Boron, aquatris(pentafluorophenyl)-, (T-4)-, compd. with
 rel-(1R,2R)-2-[(phenylmethyl)amino]cyclohexanol (1:1) (9CI) (CA INDEX NAME)
 CM 1
 CRN 155962-45-1
 CMF C18 H2 B F15 O
 CCI CCS



CM 2

CRN 40571-86-6
 CMF C13 H19 N O

Relative stereochemistry.

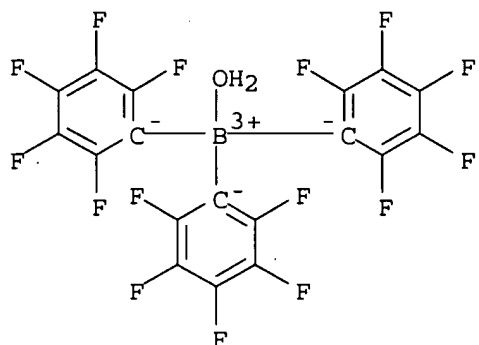


IT **312640-05-4 568599-29-1**
 RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)

(mechanistic studies of tris(pentafluorophenyl)borane catalyzed
ring-opening of nonactivated aziridines with amines or benzenethiol)

RN 312640-05-4 CAPLUS

CN Boron, aquatris(pentafluorophenyl)-, monohydrate, (T-4)- (9CI) (CA INDEX NAME)



● H₂O

RN 568599-29-1 CAPLUS

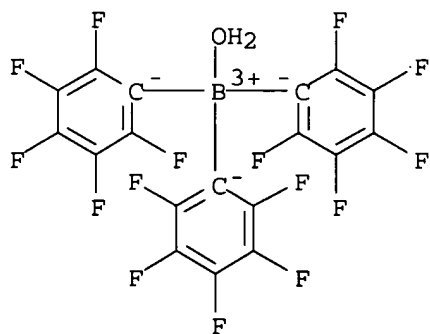
CN Boron, aquatris(pentafluorophenyl)-, (T-4)-, compd. with
7-(phenylmethyl)-7-azabicyclo[4.1.0]heptane (1:1), monohydrate (9CI) (CA INDEX NAME)

CM 1

CRN 155962-45-1

CMF C18 H2 B F15 O

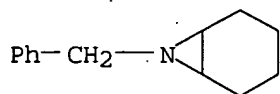
CCI CCS



CM 2

CRN 24417-01-4

CMF C13 H17 N



AB The ring-opening reactions of nonactivated aziridines with amine nucleophiles are efficiently catalyzed by tris(pentafluorophenyl)borane leading to the corresponding trans-1,2-diamines in high yields. A mechanistic investigation of the reaction suggests that in situ formed [(C₆F₅)₃B(OH₂)]·nH₂O catalyzes the opening through a Bronsted acid manifold.

RE.CNT 79 THERE ARE 79 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2003:324011 CAPLUS
DN 139:62062
TI Protonation and Reactivity towards Carbon Dioxide of the Mononuclear Tetrahedral Zinc and Cobalt Hydroxide Complexes, [TpBut,Me]ZnOH and [TpBut,Me]CoOH: Comparison of the Reactivity of the Metal Hydroxide Function in Synthetic Analogues of Carbonic Anhydrase
AU Bergquist, Catherine; Fillebeen, Tauqir; Morlok, Melissa M.; Parkin, Gerard
CS Department of Chemistry, Columbia University, New York, NY, 10027, USA
SO Journal of the American Chemical Society (2003), 125(20), 6189-6199
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
IT **547766-78-9P 547766-79-0P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and crystal structure)
RN 547766-78-9 CAPLUS
CN Zinc(1+), aqua[tris[3-(1,1-dimethylethyl)-5-methyl-1H-pyrazolato-
.kappa.N1]hydroborato(1-)-.kappa.N2,.kappa.N2',.kappa.N2'']-, (T-4)-,
(T-4)-hydroxytris(pentafluorophenyl)borate(1-), compd. with benzene (2:1)
(9CI) (CA INDEX NAME)

CM 1

CRN 71-43-2
CMF C6 H6



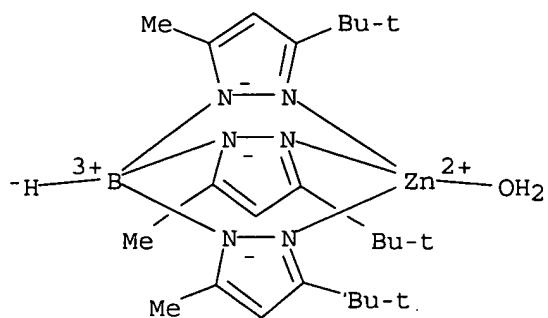
CM 2

CRN 243121-77-9
CMF C24 H42 B N6 O Zn . C18 H B F15 O

CM 3

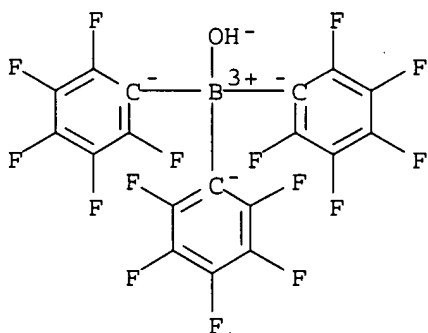
CRN 243121-76-8

CMF C24 H42 B N6 O Zn
CCI CCS



CM 4

CRN 148657-98-1
CMF C18 H B F15 O
CCI CCS



RN 547766-79-0 CAPLUS
CN Cobalt(1+), aqua[tris[3-(1,1-dimethylethyl)-5-methyl-1H-pyrazolato-
.kappa.N1]hydroborato(1-)-.kappa.N2,.kappa.N2',.kappa.N2'']-, (T-4)-,
(T-4)-hydroxytris(pentafluorophenyl)borate(1-), compd. with benzene (2:1)
(9CI) (CA INDEX NAME)

CM 1

CRN 71-43-2
CMF C6 H6

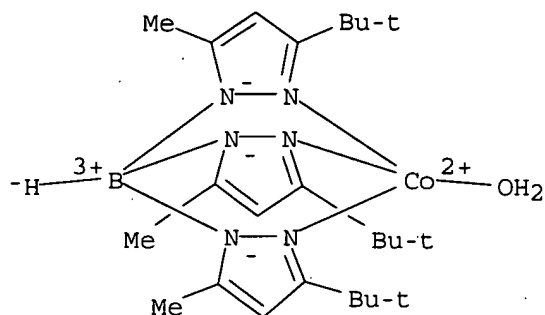


CM 2

CRN 547766-75-6
 CMF C24 H42 B Co N6 O . C18 H B F15 O

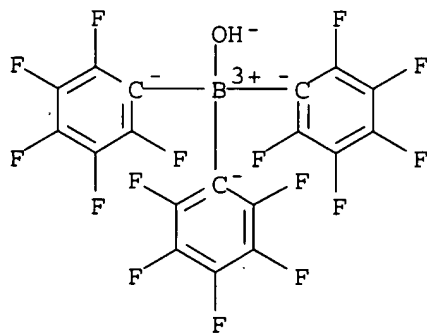
CM 3

CRN 547766-74-5
 CMF C24 H42 B Co N6 O
 CCI CCS



CM 4

CRN 148657-98-1
 CMF C18 H B F15 O
 CCI CCS



IT **243121-77-9P 547766-75-6P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT.
 (Reactant or reagent)

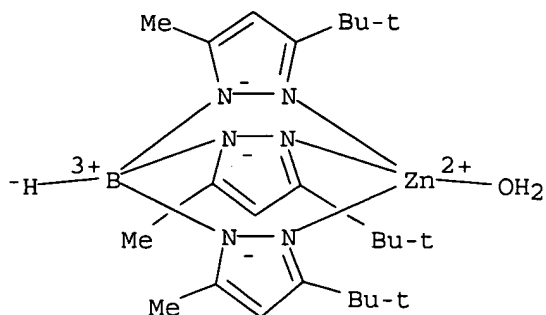
(prepn. and reaction with CO₂, Bu₄NI and NEt₃ as model for carbonic
 anhydrase)

RN 243121-77-9 CAPLUS

CN Zinc(1+), aqua[tris[3-(1,1-dimethylethyl)-5-methyl-1H-pyrazolato-
 .kappa.N1]hydroborato(1-)-.kappa.N2,.kappa.N2',.kappa.N2'']-, (T-4)-,
 (T-4)-hydroxytris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

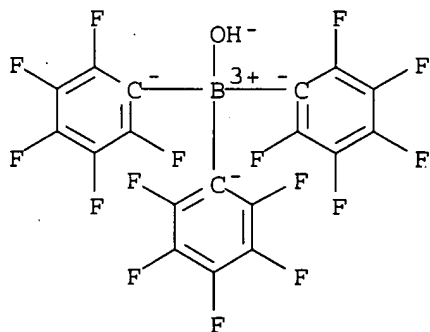
CM 1

CRN 243121-76-8
 CMF C24 H42 B N6 O Zn
 CCI CCS



CM 2

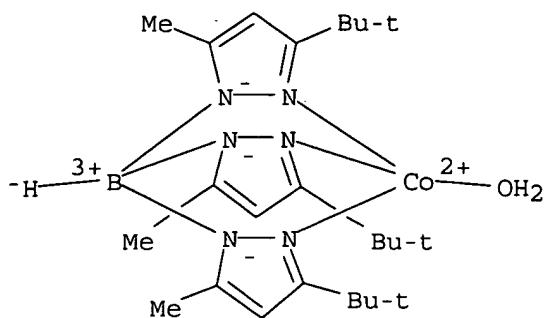
CRN 148657-98-1
 CMF C18 H B F15 O
 CCI CCS



RN 547766-75-6 CAPLUS
 CN Cobalt(1+), aqua[tris[3-(1,1-dimethylethyl)-5-methyl-1H-pyrazolato-
 .kappa.N1]hydroborato(1-)-.kappa.N2,.kappa.N2',.kappa.N2'']-, (T-4)-,
 (T-4)-hydroxytris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 547766-74-5
 CMF C24 H42 B Co N6 O
 CCI CCS

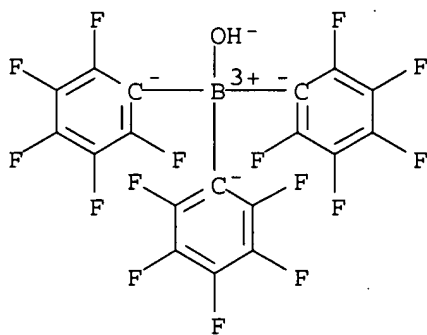


CM 2

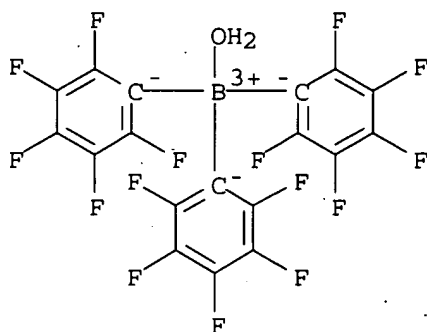
CRN 148657-98-1

CMF C18 H B F15 O

CCI CCS



IT **155962-45-1**, Aquatris(pentafluorophenyl)boron
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with zinc and cobalt tris(tert-butylmethylpyrazolyl)hydrobora
 to hydroxo complexes)
 RN 155962-45-1 CAPLUS
 CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



AB The tris(3-tert-butyl-5-methylpyrazolyl)hydroborato Zn hydroxide complex

[TpBut,Me]ZnOH is protonated by (C6F5)3B(OH2) to yield the aqua deriv. {[TpBut,Me]Zn(OH2)}[HOB(C6F5)3], which was structurally characterized by x-ray diffraction, thereby demonstrating that protonation results in a lengthening of the Zn-O bond by .apprx. 0.1 .ANG.. The protonation is reversible, and treatment of {[TpBut,Me]Zn(OH2)}+ with Et3N regenerates [TpBut,Me]ZnOH. Consistent with the notion that the catalytic hydration of CO2 by carbonic anhydrase requires deprotonation of the coordinated H2O mol., {[TpBut,Me]Zn(OH2)}+ is inert towards CO2, whereas [TpBut,Me]ZnOH is in rapid equil. with the bicarbonate complex [TpBut,Me]ZnOC(O)OH under comparable conditions. The Co hydroxide complex [TpBut,Me]CoOH is likewise protonated by (C6F5)3B(OH2) to yield the aqua deriv. {[TpBut,Me]Co(OH2)}[HOB(C6F5)3], which is isostructural with the Zn complex. The aqua complexes {[TpBut,Me]M(OH2)}[HOB(C6F5)3] (M = Zn, Co) exhibit a H bonding interaction between the metal aqua and B hydroxide moieties. This H bonding interaction may be viewed as analogous to that between the aqua ligand and Thr-199 at the active site of carbonic anhydrase. In addn. to the structural similarities between the Zn and Co complexes, [TpBut,Me]ZnOH and [TpBut,Me]CoOH, and between {[TpBut,Me]Zn(OH2)}+ and {[TpBut,Me]Co(OH2)}+, DFT (B3LYP) calcns. demonstrate that the pKa value of {[Tp]Zn(OH2)}+ is similar to that of {[Tp]Co(OH2)}+. These similarities are in accord with the observation that CoII is a successful substitute for ZnII in carbonic anhydrase. The Co hydroxide [TpBut,Me]CoOH reacts with CO2 to give the bridging carbonate complex {[TpBut,Me]Co}2(.mu.-.eta.1,.eta.2-CO3). The coordination mode of the carbonate ligand in this complex, which is bidentate to one Co center and unidentate to the other, is in contrast to that in the Zn counterpart {[TpBut,Me]Zn}2(.mu.-.eta.1,.eta.1-CO3), which bridges in a unidentate manner to both Zn centers. This difference in coordination modes concurs with the suggestion that a possible reason for the lower activity of CoII-carbonic anhydrase is assocd. with enhanced bidentate coordination of bicarbonate inhibiting its displacement.

RE.CNT 97 THERE ARE 97 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2003:319726 CAPLUS
DN 138:338291
TI Preparation of arylboronic acid derivatives and esters thereof as
intracellular calcium concentration increase inhibitors
IN Mikoshiba, Katsuhiko; Iwasaki, Hirohide; Maruyama, Takayuki; Hamano,
Shinichi
PA Ono Pharmaceutical Co., Ltd., Japan
SO PCT Int. Appl., 128 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003033002	A1	20030424	WO 2002-JP10534	20021010
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,				

CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG

JP 2001-313402 A 20011011

OS MARPAT 138:338291

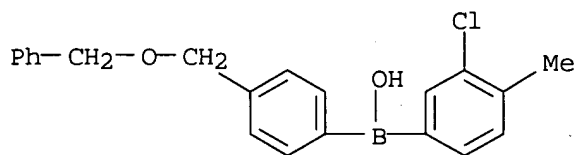
IT 515157-07-0P 515157-09-2P 515157-11-6P
515157-13-8P 515157-15-0P 515157-17-2P
515157-19-4P 515157-21-8P 515157-23-0P
515157-25-2P 515157-27-4P 515157-29-6P
515157-31-0P 515157-33-2P 515157-35-4P
515157-37-6P 515157-38-7P 515157-40-1P
515157-42-3P 515157-44-5P 515157-47-8P
515157-50-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)

(prepn. of arylboronic acid derivs. and esters thereof as intracellular
calcium concn. increase inhibitors as preventives and/or remedies for
diseases)

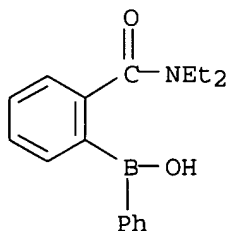
RN 515157-07-0 CAPLUS

CN Borinic acid, (3-chloro-4-methylphenyl) [4-[(phenylmethoxy)methyl]phenyl]-
(9CI) (CA INDEX NAME)



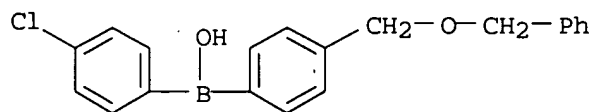
RN 515157-09-2 CAPLUS

CN Borinic acid, [2-[(diethylamino)carbonyl]phenyl]phenyl- (9CI) (CA INDEX
NAME)



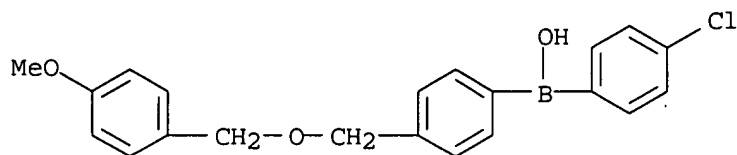
RN 515157-11-6 CAPLUS

CN Borinic acid, (4-chlorophenyl) [4-[(phenylmethoxy)methyl]phenyl]- (9CI)
(CA INDEX NAME)



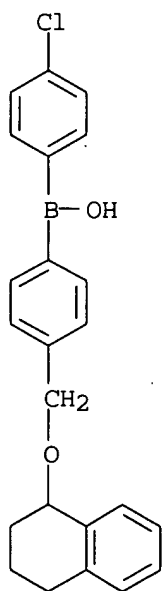
RN 515157-13-8 CAPLUS

CN Borinic acid, (4-chlorophenyl) [4-[[(4-methoxyphenyl) methoxy] methyl] phenyl] - (9CI) (CA INDEX NAME)



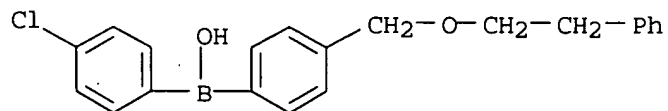
RN 515157-15-0 CAPLUS

CN Borinic acid, (4-chlorophenyl) [4-[[(1,2,3,4-tetrahydro-1-naphthalenyl) oxy] methyl] phenyl] - (9CI) (CA INDEX NAME)



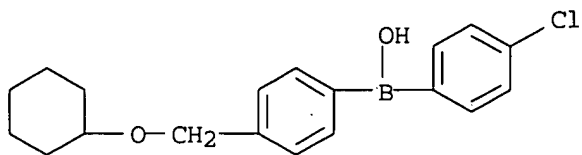
RN 515157-17-2 CAPLUS

CN Borinic acid, (4-chlorophenyl) [4-[[(2-phenylethoxy) methyl] phenyl] - (9CI) (CA INDEX NAME)



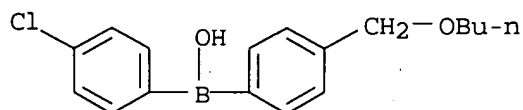
RN 515157-19-4 CAPLUS

CN Borinic acid, (4-chlorophenyl) [4-[[(cyclohexyloxy) methyl] phenyl] - (9CI) (CA INDEX NAME)



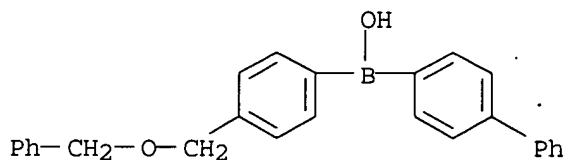
RN 515157-21-8 CAPLUS

CN Borinic acid, [4-(butoxymethyl)phenyl](4-chlorophenyl)- (9CI) (CA INDEX NAME)



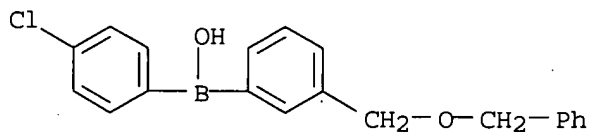
RN 515157-23-0 CAPLUS

CN Borinic acid, [1,1'-biphenyl]-4-yl[4-[(phenylmethoxy)methyl]phenyl]- (9CI) (CA INDEX NAME)



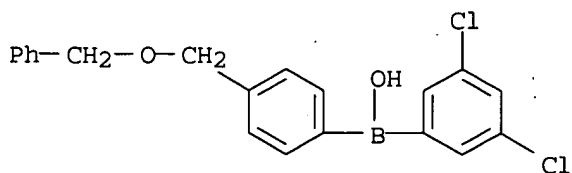
RN 515157-25-2 CAPLUS

CN Borinic acid, (4-chlorophenyl)[3-[(phenylmethoxy)methyl]phenyl]- (9CI) (CA INDEX NAME)



RN 515157-27-4 CAPLUS

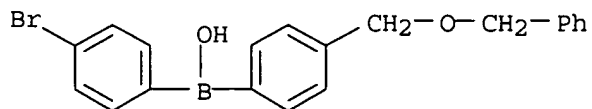
CN Borinic acid, (3,5-dichlorophenyl)[4-[(phenylmethoxy)methyl]phenyl]- (9CI) (CA INDEX NAME)



RN 515157-29-6 CAPLUS

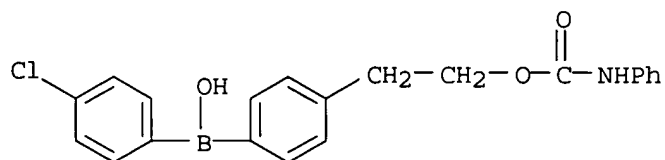
CN Borinic acid, (4-bromophenyl)[4-[(phenylmethoxy)methyl]phenyl]- (9CI) (CA

INDEX NAME)



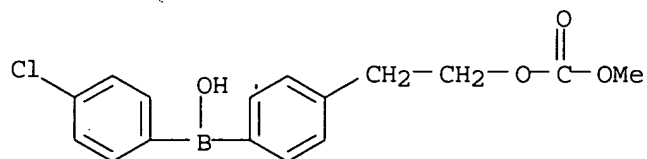
RN 515157-31-0 CAPLUS

CN Borinic acid, (4-chlorophenyl) [4-[2-[(phenylamino)carbonyl]oxy]ethyl]phenyl]- (9CI) (CA INDEX NAME)



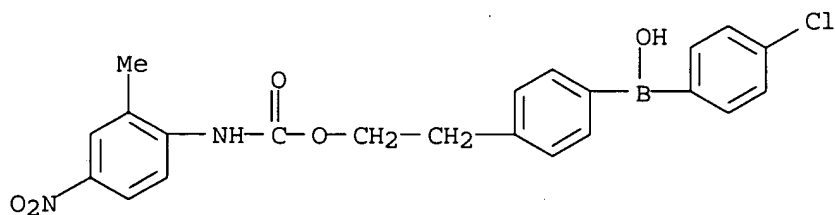
RN 515157-33-2 CAPLUS

CN Carbonic acid, 2-[4-[(4-chlorophenyl)hydroxyboryl]phenyl]ethyl methyl ester (9CI) (CA INDEX NAME)



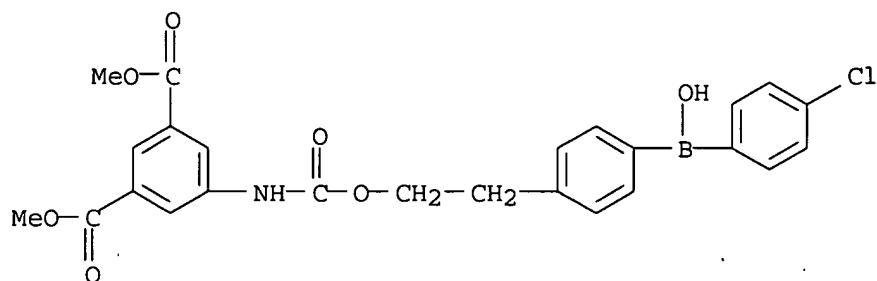
RN 515157-35-4 CAPLUS

CN Carbamic acid, (2-methyl-4-nitrophenyl)-, 2-[4-[(4-chlorophenyl)hydroxyboryl]phenyl]ethyl ester (9CI) (CA INDEX NAME)



RN 515157-37-6 CAPLUS

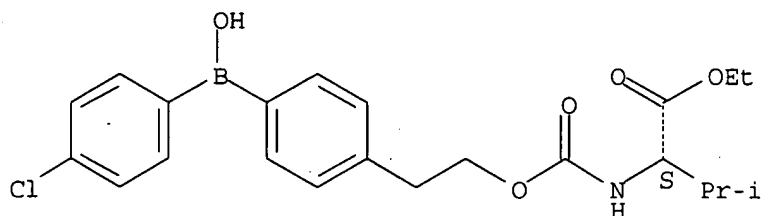
CN 1,3-Benzenedicarboxylic acid, 5-[[[2-[4-[(4-chlorophenyl)hydroxyboryl]phenyl]ethoxy]carbonyl]amino]-, dimethyl ester (9CI) (CA INDEX NAME)



RN 515157-38-7 CAPLUS

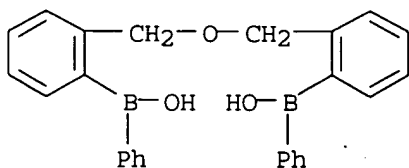
CN L-Valine, N-[[2-[4-[(4-chlorophenyl)hydroxyboryl]phenyl]ethoxy]carbonyl]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



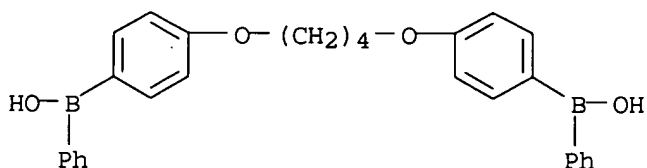
RN 515157-40-1 CAPLUS

CN Borinic acid, [oxybis(methylene-2,1-phenylene)]bis[phenyl- (9CI) (CA INDEX NAME)



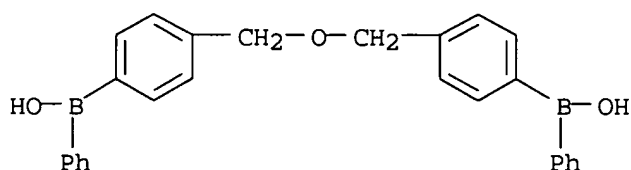
RN 515157-42-3 CAPLUS

CN Borinic acid, [1,4-butanediylbis(oxy-4,1-phenylene)]bis[phenyl- (9CI) (CA INDEX NAME)



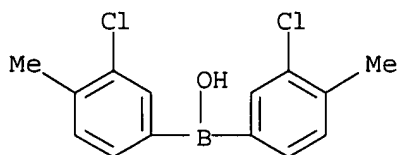
RN 515157-44-5 CAPLUS

CN Borinic acid, [oxybis(methylene-4,1-phenylene)]bis[phenyl- (9CI) (CA INDEX NAME)



RN 515157-47-8 CAPLUS

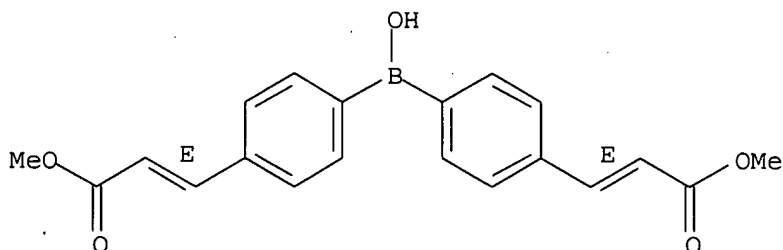
CN Borinic acid, bis(3-chloro-4-methylphenyl)- (9CI) (CA INDEX NAME)



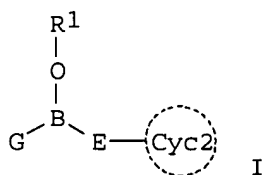
RN 515157-50-3 CAPLUS

CN 2-Propenoic acid, 3,3'-[(hydroxyborylene)di-4,1-phenylene]bis-, dimethyl ester, (2E,2'E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



GI



AB Disclosed are intracellular calcium concn. increase inhibitors contg. as the active ingredient boron compds. represented by the following general formula (I) [R1 = (un)substituted C1-3 aminoalkyl, C1-6 alkyl or C2-6 alkenyl substituted by 5- or 6-membered monocyclic heterocyclyl or C5 or 6 monocyclic carbocyclyl, CHR5R6, 5,6,7,8-tetrahydroquinolin-8-yl (wherein R5, R6 = (un)substituted C4-5 monocyclic carbocyclyl, C5 or 6 monocyclic carbocyclyl, or C1-6 alkyl or C2-6 alkenyl substituted by one of these groups); G = HO, (un)substituted C5-10 monocyclic or bicyclic carbocyclyl or 5 to 10-membered monocyclic or bicyclic heterocyclyl; Cyc2 =

(un)substituted C5-10 monocyclic or bicyclic carbocyclyl or 5 to 10-membered monocyclic or bicyclic heterocyclyl; E = a single bond, C1-4 alkylene optionally substituted C5 or 6 monocyclic carbocyclyl; provided that (2-aminoethoxy)diphenylborane] or nontoxic salts thereof. These compds. inhibit the increase in intracellular calcium by inhibiting the release of endogenous calcium or the influx of capacitive calcium and are useful as preventives and/or remedies for platelet aggregation, ischemic diseases in the heart or brain, immune deficiency, allergic diseases, bronchial asthma, hypertension, cerebrovascular twitch, various renal diseases, pancreatitis, and Alzheimer's disease. Thus, a soln. of 100 mg bis(3-chloro-4-methylphenyl)boronic acid and 52 mg N-cyclohexylethanolamine in 2 mL ethanol was stirred at room temp. overnight to give bis(3-chloro-4-methylphenyl)boronic acid 2-cyclohexylaminoethyl ester (II). Bis[4-[(2-aminoethoxy)phenylboryl]benzyl] ether showed IC₅₀ of 0.059 .mu.M for inhibiting the increase in intracellular calcium concn. in chicken-derived DT40 cultured cells lacking in IP3 receptor and also depleted in calcium by treatment with thapsigargin (calcium ion pump inhibitor for endoplasmic reticulum) when the cells were exposed to calcium chloride soln. A tablet and an ampule formulation contg. II were described.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2003:309245 CAPLUS

DN 138:321018

TI Preparation of tert-amyloxyhalogenobenzenes, tert-amyloxycyanobiphenyl, and cyanohydroxybiphenyl

IN Nakamura, Akira; Masaoka, Shin

PA Hokko Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003119175	A2	20030423	JP 2001-316684	20011015
				JP 2001-316684	20011015

OS MARPAT 138:321018

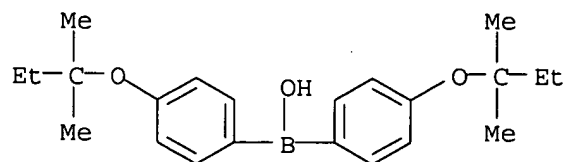
IT 512833-77-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(in prepn. of amyloxycyanobiphenyl; prepn. of cyanohydroxybiphenyl by reaction of amyloxyhalogenobenzenes with Mg and borates, condensed with halogenobenzonitrile, and hydrolysis of amyloxycyanobiphenyl)

RN 512833-77-1 CAPLUS

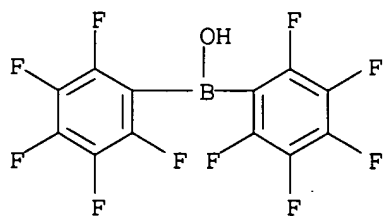
CN Borinic acid, bis[4-(1,1-dimethylpropoxy)phenyl]-(9CI) (CA INDEX NAME)



AB HOC6H4C6H4CN is prepd. by reaction of XC6H4CN (X = Cl, Br, I) with

(MeCH₂CMe₂OC₆H₄)₃-nB(OH)_n (I; n = 0-2) in the presence of transition metal catalysts and bases and hydrolysis of MeCH₂CMe₂OC₆H₄C₆H₄CN under acidic condition. I (n = 0-2) is prepd. by reaction of HOC₆H₄X (X = Cl, Br, I) with 2-methyl-2-butene, treatment with Mg, and reaction with (RO)₃B (R = C₁-6 alkyl), and hydrolysis. 4-Tert-amylloxychlorobenzene was treated with Mg in the presence of EtBr in THF-PhMe at 70.degree. for 5 h and reacted with tri-n-hexyl borate at 35-45.degree. for 2 h to give 4,4'-di(tert-amylloxyphenyl)borinic acid, which was treated with 4-ClC₆H₄CN in the presence of K₃PO₄ and 1,4-bis(diphenylphosphino)butanenickel(II) chloride under reflux for 2 h to give 98.7% 4'-tert-amylloxy-4-cyanobiphenyl, which was hydrolyzed with H₂SO₄ in THF at 30.degree. for 4 h to give 94.4% 4-cyano-4'-hydroxybiphenyl.

L4 ANSWER 7 OF 309 CAPLUS. COPYRIGHT 2003 ACS on STN
 AN 2003:193808 CAPLUS
 DN 138:354016
 TI Bis(pentafluorophenyl)borinic Acid: a Cyclic Trimer in the Solid State and a Monomer, with Hindered Rotation around the B-OH Bond, in Solution
 AU Beringhelli, Tiziana; D'Alfonso, Giuseppe; Donghi, Daniela; Maggioni, Daniela; Mercandelli, Pierluigi; Sironi, Angelo
 CS Dipartimento di Chimica Inorganica Metallorganica e Analitica, Milan, 20133, Italy
 SO Organometallics (2003), 22(8), 1588-1590
 CODEN: ORGND7; ISSN: 0276-7333
 PB American Chemical Society
 DT Journal
 LA English
 IT 2118-02-7, Bis(pentafluorophenyl)borinic acid
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (bis(pentafluorophenyl)borinic acid as cyclic trimer in solid state and a monomer, with hindered rotation around the boron-hydroxy bond, in soln.)
 RN 2118-02-7 CAPLUS
 CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

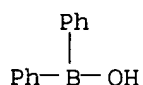


AB The title mol. in the solid state exists as a cyclic trimer, with B-O(H)-B bridges and a cyclohexane-like structure (C₂ twist-boat conformation); dissoln. in toluene-d₈ affords the B(C₆F₅)₂OH monomer, in which the low-temp. 19F NMR data reveal restricted rotation of the OH substituent around the Ar₂B-OH bond (E_a = 39 kJ mol⁻¹), as a result of the partial double-bond character of this interaction. The crystal structure of trimer was detd.

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2003:150618 CAPLUS
 DN 138:190256
 TI Process for the preparation of aryl and alkyl boron compounds in micro reactors
 IN Koch, Manfred; Wehle, Detlef; Scherer, Stefan; Forstinger, Klaus; Meudt, Andreas; Hessel, Volker; Werner, Bernd; Loewe, Holger
 PA Clariant Gmbh, Germany
 SO Eur. Pat. Appl., 12 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1285924	A1	20030226	EP 2002-16149	20020720
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	DE 10140857	A1	20030306	DE 2001-10140857A	20010821
	US 2003100792	A1	20030529	US 2002-210807	20020801
				DE 2001-10140857A	20010821
	JP 2003128677	A2	20030508	JP 2002-240103	20020821
				DE 2001-10140857A	20010821
IT	2622-89-1P , Diphenylborinic acid				
	RL: SPN (Synthetic preparation); PREP (Preparation) (synthesis of trialkyl- and triaryl-substituted boranes, boronic acids, and tetraalkylborates in flow-through reactors)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



AB Manuf. of arylboron and alkylboron compds., of general formulas $\text{R}_n\text{BX}_{3-n}$ and $\text{R}_4\text{B} \cdot \text{MgY}^+$, as well as $\text{R}_n\text{B}(\text{OH})_{3-n}$ (prepd. by hydrolysis of $\text{R}_n\text{BX}_{3-n}$), are prepd. from the corresponding arylmagnesium halides and alkylmagnesium halides, R-Mg-Y , and BX_3 , in which $\text{X} = \text{F}, \text{Cl}, \text{Br}, \text{I}$, C1-5-alkoxy , $\text{N,N-di(C1-5-alkyl)amino}$, or (C1-5-alkyl)thio ; $n = 1, 2$, or 3 ; and $\text{R} = \text{C1-6-alkyl}$, $(\text{RO-}, \text{RR}'\text{N-}, \text{Ph-}, \text{substituted Ph-}, \text{F-}, \text{and RS-})$, and (C1-6-alkyl) -substituted phenyl; and $(\text{C1-6-alkyl-}, \text{C1-6-alkoxy-}, \text{C1-5-thioalkyl-}, \text{silyl- F-}, \text{Cl-}, \text{dialkylamino-}, \text{diarylamino-}, \text{and alkylarylamino})$ -substituted Ph, in addn. to heterocycloaryl substituents with one or two heteroatoms (e.g., N, O, or S). The compds. are synthesized in through-flow microreactors in flow channels of diam. 0.25 mm. to 1.5 mm.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2003:98804 CAPLUS
 DN 138:329264
 TI Crystal structure of [1,2-ethylene-1,1'-bis(.eta.5-tetrahydroindenyl)] [hydroxytris(pentafluorophenyl)borato]titanium(III), C38H24BF15OTi
 AU Spannenberg, A.; Burlakov, V. V.; Arndt, P.; Baumann, W.; Shut, V. B.;

Rosenthal, U.

CS Institut für Organische Katalyseforschung an der Universität Rostock e.V.,
Rostock, D-18055, GermanySO Zeitschrift für Kristallographie - New Crystal Structures (2002), 217(4),
546-548

CODEN: ZKNSFT; ISSN: 1433-7266

PB Oldenbourg Wissenschaftsverlag GmbH

DT Journal

LA English

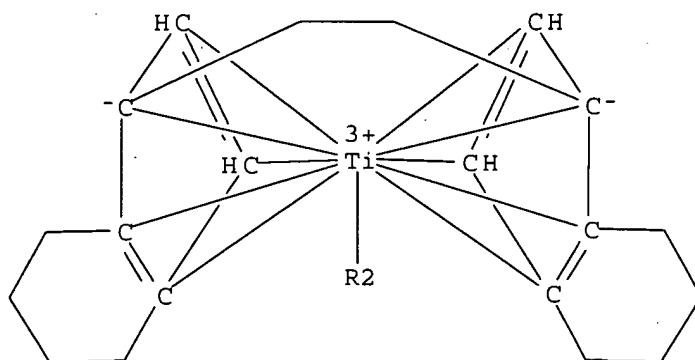
IT 511548-86-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and crystal structure of)

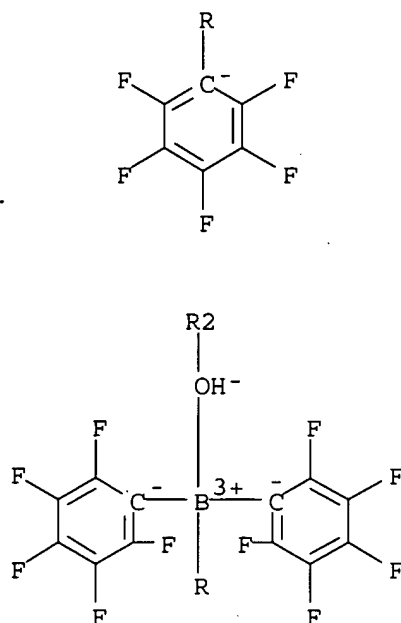
RN 511548-86-0 CAPLUS

CN Titanium, [rel-(7aR,7'aR)-1,2-ethanediylbis[(1,2,3,3a,7a-eta.)-4,5,6,7-
tetrahydro-1H-inden-1-ylidene]] [hydroxytris(pentafluorophenyl)borato(1-)-
.kappa.O] - (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



AB The title compd. is monoclinic, space group P21/c, a 8.584(2), b 17.976(4), c 21.964(4) .ANG., .beta. 94.47(3).degree., Z = 4, Rgt(F) = 0.039, wRall(F2) = 0.087, T = 293 K. At. coordinates are given. The mol. structure of the title complex [d(Ti-O) 2.097(3) .ANG., d(O-B) 1.482(4) .ANG.] is comparable with the d in titanocene complex (CpB)CpTi(u-OH)Cl [d(Ti-O) 2.044(1) .ANG., d(O-B) 1.532(3) .ANG.]. Therefore, its structure can be described in the same manner as the donor complex was between the cationic titanium center and the HO-B(C6F5)3 borate anion. The B-O distance of 1.495(5) .ANG. in the title compd. is similar to that found for [Et3NH]+[(C6F5)3BOH]-. The hydrogen atom at the oxygen in the title complex cannot be localized, but because of the described bonding situation there has to was be one. Addnl. the title compd. is paramagnetic.

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:955424 CAPLUS
DN 138:40781
TI Triphenyl boron addition product and its use as antifouling agent in coatings
IN Yoshimaru, Masaaki; Kohara, Masanori; Koga, Yuji
PA Yoshitomi Fine Chemicals Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 20 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

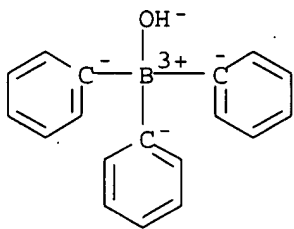
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002363187	A2	20021218	JP 2001-211385	20010607
OS	MARPAT 138:40781			JP 2001-211385	20010607

IT 12113-07-4

RL: RCT (Reactant); RACT (Reactant or reagent)
 (in prepn. of tri-Ph boron addn. product for antifouling coatings)

RN 12113-07-4 CAPLUS

CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)

● Na⁺

AB The patent relates to antifouling agent useful for fish nets, boat hulls, etc. wherein the antifouling agent is represented by (ph3B)-NH2R1-NH-R2-NH2-(Bph3) and its salts where R1 and R2 are the same or different C1-18 alkyl which may contain oxygen atom. Thus, di(triphenylboran)-3,3'-iminobis(propylamine) adduct prepd. by reacting triphenylboron sodium hydroxide salt soln. and 3,3'-iminobis(propylamine) was used as antifouling agent for fish nets and showed no bio-organism attachment after 6 mo.

L4 ANSWER 11 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:935623 CAPLUS

DN 138:247568

TI Formation and characterization of the first monoalumoxane,
 LA1O.cntdot.B(C6F5)3

AU Neculai, Dante; Roesky, Herbert W.; Neculai, Ana Mirela; Magull, Jorg;
 Walfort, Bernhard; Stalke, Dietmar

CS Institut fur Anorganische Chemie Universitat Gottingen, Gottingen, 37077,
 Germany

SO Angewandte Chemie, International Edition (2002), 41(22), 4294-4296

CODEN: ACIEF5; ISSN: 1433-7851

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

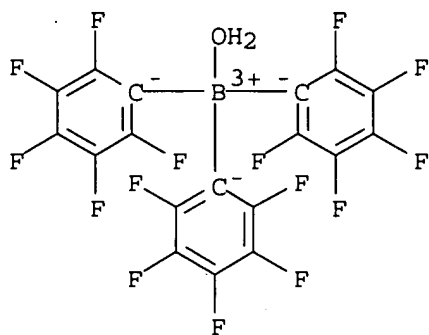
OS CASREACT 138:247568

IT 155962-45-1, Aquatris(pentafluorophenyl)boron

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant for prepn. of aluminum .beta.-diketiminato borato and
 borinato complexes)

RN 155962-45-1 CAPLUS

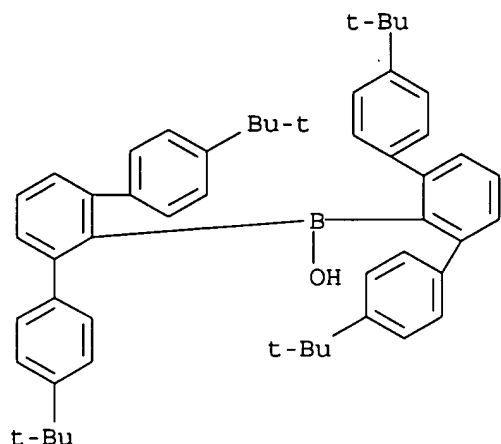
CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



AB The reaction of aluminum .beta.-diketiminato complex AlMe_2 [$\text{L} = \text{Et}_2\text{NCH}_2\text{CH}_2\text{N}:\text{C}(\text{Me})\text{CHC}(\text{Me})\text{:NCH}_2\text{CH}_2\text{NEt}_2$] with $(\text{H}_2\text{O})\text{B}(\text{C}_6\text{F}_5)_3$ in toluene at 0.degree. gave the monoalumoxane, $[\text{AlO}.\text{cntdot}.\text{B}(\text{C}_6\text{F}_5)_3]$ (1). The reaction in THF at 55.degree. resulted in the formation of $[\text{Al}(\text{C}_6\text{F}_5)\{\text{OB}(\text{C}_6\text{F}_5)_2\}]$ (2). The complexes were characterized by multinuclear NMR spectroscopy, elemental anal. and x-ray structural anal. The crystal structure of 1 shows a tetrahedral Al bonded to the hydroxytriarylborate O atom and 3 N atoms of the diketimate ligand. The structure of 2 consist of a 5-coordinate Al with the diarylborinate O, aryl C and one diketimate N atom in the equatorial sites of a trigonal bipyramid. In both solid state structures one arm of the potentially tetradentate .beta.-diketimate remains uncoordinated, although the soln. 1H NMR spectra show the diketimate arms to be equiv.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:898289 CAPLUS
DN 138:122686
TI Unsymmetrical 9-Borafluorenes via Low-Temperature C-H Activation of m-Terphenylboranes
AU Wehmschulte, Rudolf J.; Diaz, Armando A.; Khan, Masood A.
CS Department of Chemistry and Biochemistry, University of Oklahoma, Norman, OK, 73019, USA
SO Organometallics (2003), 22(1), 83-92
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 138:122686
IT **488838-67-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., structure, and reactivity of unsym. borafluorenes via low-temp. carbon-hydrogen activation of terphenylboranes)
RN 488838-67-1 CAPLUS
CN Borinic acid, bis[4,4''-bis(1,1-dimethylethyl) [1,1':3',1''-terphenyl]-2'-yl]- (9CI) (CA INDEX NAME)



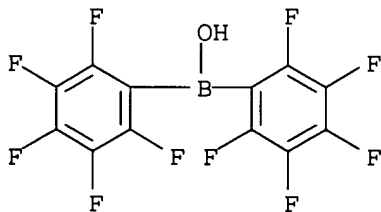
AB The reaction of 2,6-(4-t-BuC₆H₄)₂C₆H₃Li and with H₂ClB.cntdot.SMe₂ or HCl₂B.cntdot.SMe₂ in hexane soln. afforded the m-terphenyl-substituted unsym. 9-borafluorene 1-(4-tert-butylphenyl)-7-tert-butyl-9-(bis-2,6-(4-tert-butylphenyl)phenyl)-9-borafluorene, 1, in good to moderate yields. The related reaction of 2,6-(3,5-Me₂C₆H₃)₂C₆H₃Li with BH₂Cl.cntdot.SMe₂ or BHCl₂.cntdot.SMe₂ in toluene soln. gave 1-(3,5-dimethylphenyl)-6,8-dimethyl-9-(bis-2,6-(3,5-dimethylphenyl)phenyl)-9-borafluorene, 3. Compds. 1 and 3 are air-stable fluorescent solids. The reactions of 2,6-(2-MeC₆H₄)₂C₆H₃Li or 2,6-Mes₂C₆H₃Li (which possess either two or no o- and o''-hydrogens) with H₂ClB.cntdot.SMe₂ gave the primary boranes [2,6-(2-MeC₆H₄)₂C₆H₃BH₂]₂, 4, and [2,6-Mes₂C₆H₃BH₂]₂, 5, resp. Quenching of the reaction of 2,6-(4-t-BuC₆H₄)₂C₆H₃Li with H₂ClB.cntdot.SMe₂ after 1.5 h with pyridine resulted in the isolation of the primary borane [2,6-(4-t-BuC₆H₄)₂C₆H₃BH₂]₂, 2, as the pyridine adduct 2.cntdot.py, which after thermolysis at 190.degree. gave 1-(4-tert-butylphenyl)-7-tert-butyl-9-borafluorene.cntdot.pyridine, 7.cntdot.py. Heating a C₆D₆ soln. of 4 to 60-70.degree. led to C-H activation and formation of a 1:1 adduct of monomeric 4 and 1-(2-methylphenyl)-5-methyl-9-borafluorene, 12. Reaction of 2 equiv. of 2,6-(4-t-BuC₆H₄)₂C₆H₃Li with H₂ClB.cntdot.SMe₂ in hexane soln. followed by addn. of THF gave the very crowded diterphenyl borate [2,6-(4-t-BuC₆H₄)₂C₆H₃]₂B(.mu.-H)₂Li[(THF)₂]₂, 11, which can be converted to 1 by simple addn. of water. Prolonged exposure of 1 to concd. aq. HCl led to B-C bond cleavage and formation of the sterically very crowded diterphenylborinic acid [2,6-(4-t-BuC₆H₄)₂C₆H₃]₂BOH, 15. All compds. have been characterized by ¹H, ¹³C, and ¹¹B NMR spectroscopy and mass spectrometry, and compds. 1, 4, and 11 have also been characterized by single-crystal x-ray crystallog.

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:888799 CAPLUS
DN 137:386085
TI Silicone composition polymerizable and/or crosslinkable by cationic process, under thermal activation and by means of a Lewis adduct initiator
IN Sterin, Sebastien; Mignani, Gerard
PA Rhodia Chimie, Fr.
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA French

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002092665	A1	20021121	WO 2002-FR1617	20020514
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	FR 2824835	A1	20021122	FR 2001-6409	A 20010515
OS	MARPAT 137:386085				
IT	2118-02-7, Bis(pentafluorophenyl)hydroxyborane				
	RL: CAT (Catalyst use); USES (Uses) (silicone compns. crosslinkable by cationically under thermal activation by catalysts based on adducts of Lewis bases with borane Lewis acids)				
RN	2118-02-7 CAPLUS				
CN	Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)				

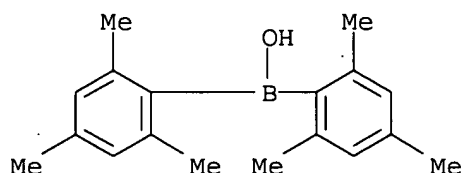


AB The crosslinking of silicones is effected cationically at 50-150.degree. by adducts of borane Lewis acids and Lewis bases to give products, useful as release coatings, encapsulants for electronic components, and cladding for optical fibers. A typical coating compn. was prepd. by adding a 2% soln. of (C6F5)3B and 1,4-diazabicyclo[2.2.2]octane in iso-PrOH to 10 g Me3Si(OSiMe2)80(OSiMeR)7OSiMe3 [R = 2-(3,4-epoxycyclohexyl)ethyl] so that the concn. of B in the silicone is 9.5 ppm.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:863699 CAPLUS
 DN 138:304373
 TI Transition-metal imido-boroxide complexes: a structural and spectroscopic investigation of the influence of boron
 AU Cole, Sarah C.; Coles, Martyn P.; Hitchcock, Peter B.
 CS Department of Chemistry, University of Sussex, Falmer, Brighton, BN1 9QJ, UK
 SO Journal of the Chemical Society, Dalton Transactions (2002), (22), 4168-4174
 CODEN: JCSDA; ISSN: 1472-7773
 PB Royal Society of Chemistry

DT Journal
 LA English
 IT 20631-84-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (coordination; prepn. and structure of molybdenum and titanium
 imido-boroxide and imido-alkoxide complexes)
 RN 20631-84-9 CAPLUS
 CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB The four coordinate compds. $\text{Mo}(\text{NR})_2[\text{OB}(\text{mes})_2]_2$ (1, R = tBu; 2, R = Ar = 2,6-iPr₂C₆H₃) were prepd. from the reaction of $[(\text{mes})_2\text{BOLi}(\text{Et}_2\text{O})_n]_x$ with the corresponding $\text{Mo}(\text{NR})_2\text{Cl}_2(\text{dme})$ starting material; for structural comparison, $\text{Mo}(\text{NtBu})_2[\text{OCH}(\text{mes})_2]_2$ (3) was also prepd. The related five-coordinate complexes $\text{Ti}(\text{NtBu})[\text{OB}(\text{mes})_2]_2(\text{py})_2$ (4) and $\text{Ti}(\text{NtBu})[\text{OCH}(\text{mes})_2]_2(\text{py})_2$ (5) were made using analogous procedures. Crystal structures of 1-5 were investigated to assess the effect of the boron atom on the metal-oxygen and metal-nitrogen(imido) bond lengths and angles. In general, both classes of compd. displayed longer metal-oxygen bonds and shorter metal-nitrogen(imido) bonds for the boroxide derivs. Spectroscopic investigation of the Δ values for the tert-butylimido derivs. revealed that complexes incorporating the $[\text{OB}(\text{mes})_2]^-$ anion exhibit a redn. in the electron d. at the imido nitrogen atom, in agreement with the observations from the solid state structures.

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

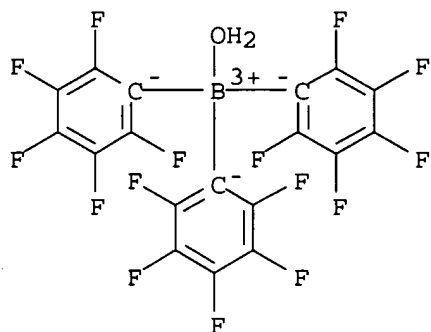
L4 ANSWER 15 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:857650 CAPLUS
 DN 138:255269
 TI Crystal structure of the strongly hydrogen bonded complex anion $[(\text{C}_6\text{F}_5)_3\text{B}(\text{H}_3\text{O}_2)\text{B}(\text{C}_6\text{F}_5)_3]^-$
 AU Drewitt, Mark J.; Niedermann, Martina; Baird, Michael C.
 CS Department of Chemistry, Queen's University, Kingston, ON, K7L 3N6, Can.
 SO Inorganica Chimica Acta (2002), 340, 207-210
 CODEN: ICHAA3; ISSN: 0020-1693
 PB Elsevier Science B.V.
 DT Journal
 LA English
 OS CASREACT 138:255269
 IT 503026-10-6P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and crystal structure of bis[tris(pentafluorophenyl)borane]
 complex contg. a strongly hydrogen bonded bridging trihydrogen dioxide
 anion)
 RN 503026-10-6 CAPLUS
 CN Boron, aquatris(pentafluorophenyl)-, (T-4)-, compd. with dichloromethane
 and N,N,N',N'-tetramethyl-1,8-naphthalenediamine mono[(T-4)-
 hydroxytris(pentafluorophenyl)borate(1-)] (1:1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 155962-45-1

CMF C18 H2 B F15 O

CCI CCS



CM 2

CRN 75-09-2

CMF C H2 Cl2

Cl-CH₂-Cl

CM 3

CRN 312640-09-8

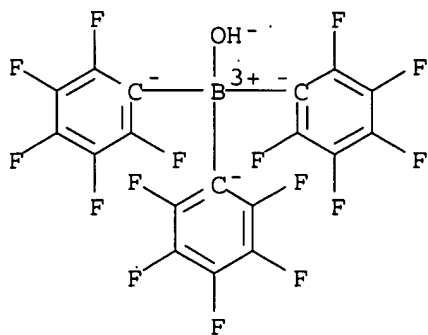
CMF C18 H B F15 O . C14 H18 N2 . H

CM 4

CRN 147892-17-9

CMF C18 H B F15 O . H

CCI CCS

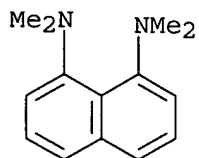


● H⁺

CM 5

CRN 20734-58-1

CMF C14 H18 N2



IT 503026-11-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and mol. structure of bis[tris(pentafluorophenyl)borane]
complex contg. a strongly hydrogen bonded bridging trihydrogen dioxide
anion)

RN 503026-11-7 CAPLUS

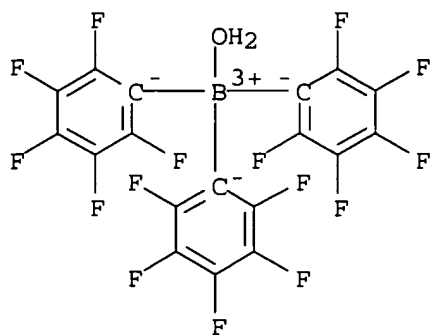
CN Boron, aquatris(pentafluorophenyl)-, (T-4)-, compd. with
N,N,N',N'-tetramethyl-1,8-naphthalenediamine mono[(T-4)-
hydroxytris(pentafluorophenyl)borate(1-)] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 155962-45-1

CMF C18 H2 B F15 O

CCI CCS



CM 2

CRN 312640-09-8

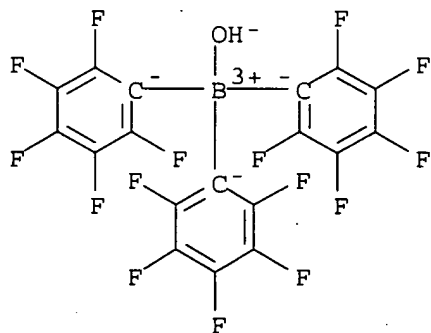
CMF C18 H B F15 O . C14 H18 N2 . H

CM 3

CRN 147892-17-9

CMF C18 H B F15 O . H

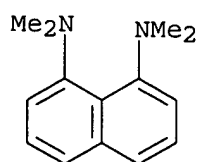
CCI CCS

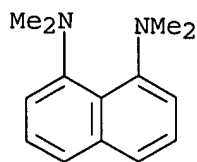
● H⁺

CM 4

CRN 20734-58-1

CMF C14 H18 N2

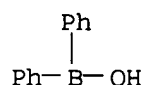




AB The highly electrophilic borane $B(C_6F_5)_3$ reacts with H_2O to form the aqua complex $H_2OB(C_6F_5)_3 \cdot 2H_2O$, which is deprotonated by 1,8-bis(dimethylamino)naphthalene (proton sponge) to form $[C_{10}H_6(NMe_2)_2H][B(C_6F_5)_3(H_3O_2)]$. The complex anion was characterized crystallog. and asymmetry is found, suggesting that this is the 1st example of the theor. predicted asym. H bonded $[H_3O_2]^-$ ion. There also appears to be evidence for significant $CF \cdots HO$ H bonding in the complex anion that may be responsible in part for the overall structure of the anion.

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 16 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:846231 CAPLUS
DN 138:267844
TI A glucose-selective fluorescence sensor based on boronic acid-diol recognition
AU Karnati, Vishnu Vardhan; Gao, Xingming; Gao, Shouhai; Yang, Wenqian; Ni, Weijuan; Sankar, Sabapathy; Wang, Binghe
CS Department of Chemistry, North Carolina State University, Raleigh, NC, 27695-8204, USA
SO Bioorganic & Medicinal Chemistry Letters (2002), 12(23), 3373-3377
CODEN: BMCLE8; ISSN: 0960-894X
PB Elsevier Science Ltd.
DT Journal
LA English
IT **2622-89-1**, Diphenylborinic acid
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(glucose-selective fluorescence sensor based on boronic acid-diol recognition)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB A glucose selective diphenylboronic acid fluorescent sensor (10a) with a K_a of $1472 M^{-1}$ has been synthesized and evaluated. This sensor shows a 43- and 49-fold selectivity for glucose over fructose and galactose, resp. The binding affinity improvement is about 300-fold and the selectivity improvement for glucose over fructose is about 1400-fold compared with the monoboronic acid compd., phenylboronic acid. 1H NMR studies indicate that sensor 10a binds with α -D-glucopyranose in a bidentate manner (1:1 ratio).

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 17 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:792279 CAPLUS

DN 137:312411

TI Triphenylborons as antifouling agents for fish nets and coatings

IN Yoshimaru, Masaaki; Kohara, Masanori

PA Yoshitomi Fine Chemicals Ltd., Japan

50 Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

KIND

DATE _____

APPLICATION NO.

DATE _____

PI JP 2002302494 A2 20021018

JP 2001-402772 20011217

JP 2000-405055 A 20001228

OS MARPAT 137:312411

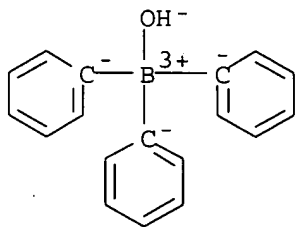
IT 12113-07-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(triphenylborons as antifouling agents for fishnet and coatings)

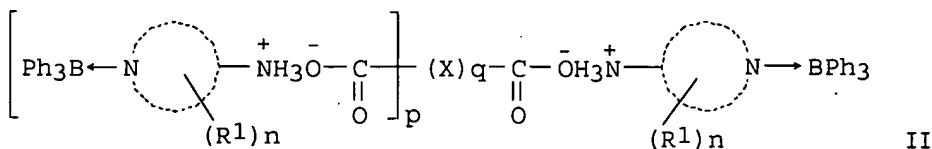
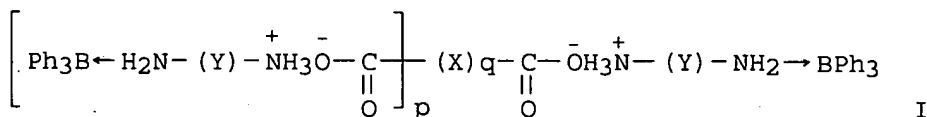
RN 12113-07-4 CAPLUS

CN Borate(1-), hydroxytriphenyl-, sodium, (T-4) - (9CI) (CA INDEX NAME)



● Na^+

GI



AB The compds comprise I ($p = q \neq 0$; if $p = 0$ and $q = 1$, then $X = \text{C1-18 alkyl}$, C2-18 alkenyl , aryl , aralkyl , aralkenyl , CHO , etc.; if $p = q = 1$; then $X = \text{C1-18 alkylene}$, C2-18 alkenylene , arylene , aralkylene , aralkenylene , etc.; $Y = \text{C2-18 aralkylene}$; arylene ; aralkylene , cycloalkylene) or II ($p, q, X = \text{same as above}$; $R_1 = \text{halo, C1-18 alkyl}$; $n = 0-1$). Thus, $\text{Ph}_3\text{B-NaOH}$ adduct was treated with ethylenediamine at room temp. for 5 h and reacted with oleic acid at room temp. for 2 h to give a compd. Coating contg. 10 wt.% compd. showed no fouling after 6 mo. underwater.

L4 ANSWER 18 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:742334 CAPLUS

DN 138:187447

TI Use of boron enolates in water. The first boron enolate-mediated diastereoselective aldol reactions using catalytic boron sources

AU Mori, Yuichiro; Kobayashi, Jutta; Manabe, Kei; Kobayashi, Shu

CS Graduate School of Pharmaceutical Sciences, The University of Tokyo, Bunkyo-ku, Tokyo, 113-0033, Japan

SO Tetrahedron (2002), 58(41), 8263-8268

CODEN: TETRAB; ISSN: 0040-4020

PB Elsevier Science Ltd.

DT Journal

LA English

OS CASREACT 138:187447

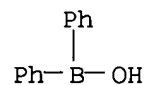
IT 2622-89-1 211636-23-6 499774-69-5

RL: CAT (Catalyst use); USES (Uses)

(stereoselective Mukaiyama aldol reactions catalyzed by diarylborinic acids in the presence of surfactant and Bronsted acid in water)

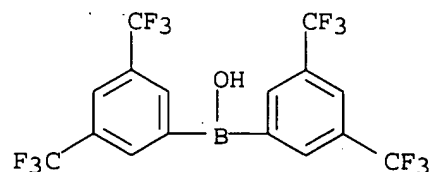
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



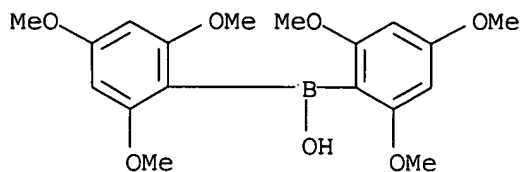
RN 211636-23-6 CAPLUS

CN Borinic acid, bis[3,5-bis(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

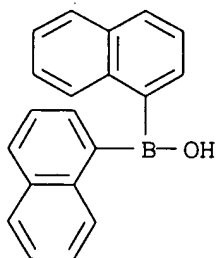


RN 499774-69-5 CAPLUS

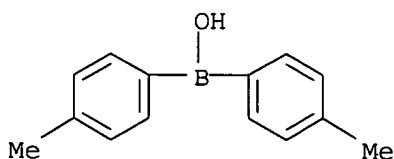
CN Boric acid, bis(2,4,6-trimethoxyphenyl)- (9CI) (CA INDEX NAME)



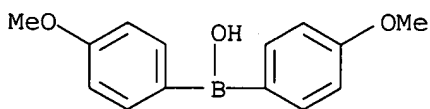
IT 62981-91-3P 66117-64-4P 73774-45-5P
 96484-29-6P 176913-70-5P 357437-66-2P
 499774-70-8P 499774-71-9P
 RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
 USES (Uses)
 (stereoselective Mukaiyama aldol reactions catalyzed by diarylborinic
 acids in the presence of surfactant and Bronsted acid in water)
 RN 62981-91-3 CAPLUS
 CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



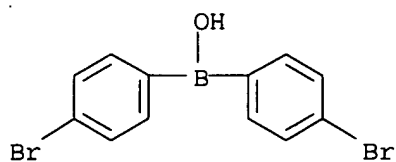
RN 66117-64-4 CAPLUS
 CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 73774-45-5 CAPLUS
 CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

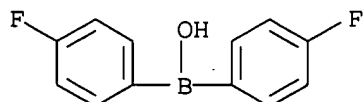


RN 96484-29-6 CAPLUS
 CN Borinic acid, bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



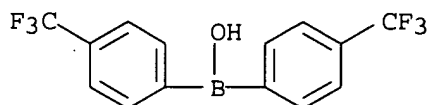
RN 176913-70-5 CAPLUS

CN Borinic acid, bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)



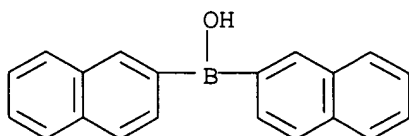
RN 357437-66-2 CAPLUS

CN Borinic acid, bis[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



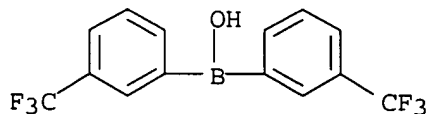
RN 499774-70-8 CAPLUS

CN Boric acid, di-2-naphthalenyl- (9CI) (CA INDEX NAME)



RN 499774-71-9 CAPLUS

CN Boric acid, bis[3-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

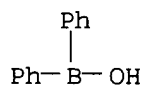


AB Highly diastereoselective aldol reactions in water using a catalytic amt. of diarylborinic acid have been developed. The reactions proceeded smoothly in the presence of a small amt. of an anionic surfactant and a Bronsted acid. Water was the most suitable solvent; and org. solvents such as ether and dichloromethane were ineffective in this system.. Use of bis(4-trifluoromethylphenyl)borinic acid gave high catalytic activity. It is most plausible to conclude that the active species of the reactions are boron enolates, and this is the first example of catalytic use of a boron source in boron enolate-mediated diastereoselective aldol reactions.

RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 19 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:727068 CAPLUS
DN 137:247494
TI Aldol condensation of aromatic aldehydes with silyl enol ethers in water
IN Kobayashi, Osamu; Manabe, Takashi
PA Japan Science and Technology Corporation, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002275120	A2	20020925	JP 2001-75091	20010315
	WO 2002074724	A1	20020926	WO 2002-JP2185	20020308
	W: US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
				JP 2001-75091	A 20010315
OS	MARPAT 137:247494				
IT	2622-89-1				
	RL: CAT (Catalyst use); USES (Uses)				
	(catalyst; aldol condensation of arom. aldehydes with silyl enol ethers in water)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



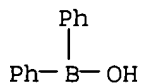
AB Aldol reaction process comprises reaction of aldehydes with silyl enol ethers in the presence of R1BR2OH [R1, R2 = (un)substituted hydrocarbyl], surfactants, and bronsted acids in water. PhCHO was condensed with MeCH:CPhOSiMe3 in the presence of Ph2BOH, benzoic acid, and sodium dodecyl sulfate in water at 30.degree. for 24 h to give 90% HOCHPhCHMeCOPh with syn/anti 92/8.

L4 ANSWER 20 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:708865 CAPLUS
DN 137:233718
TI Boron-containing silsesquioxanes and their moisture-curable adhesive compositions
IN Miyata, Takeshi; Sugisaki, Toshio
PA Lintec Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002265609	A2	20020918	JP 2001-71730	20010314

JP 2001-71730 20010314

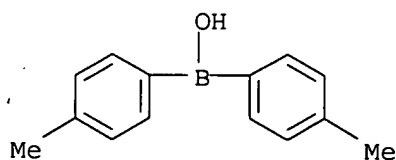
IT 2622-89-1DP, Diphenylhydroxyborane, reaction products with silsesquioxane, polymers
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (boron-contg. silsesquioxanes for weather-resistant moisture-curable adhesives)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

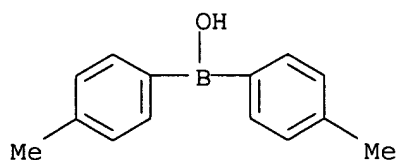


AB The invention relates to silsesquioxanes having B liking to Si via O. Thus, PhSi(OMe)₃ and Et₂BOMe were reacted in the presence of methanesulfonic acid to give a B-terminated silsesquioxane, which was applied on a plastic film and cured to show good weather resistance.

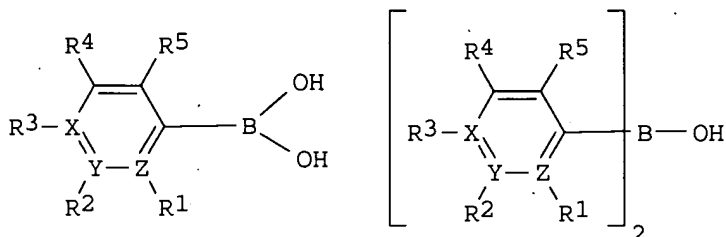
L4 ANSWER 21 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:671913 CAPLUS
 DN 137:201430
 TI Process for preparing aromatic boronic and borinic acids
 IN Meudt, Andreas; Erbes, Michael; Forstinger, Klaus
 PA Clariant G.m.b.H., Germany
 SO Eur. Pat. Appl., 9 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1236730	A2	20020904	EP 2002-3691	20020219
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	DE 10110051	A1	20020912	DE 2001-10110051A	20010302
	DE 10110051	C2	20030703	DE 2001-10110051	20010302
	US 2002161230	A1	20021031	US 2002-85368	20020228
				DE 2001-10110051A	20010302
	JP 2002308883	A2	20021023	JP 2002-57278	20020304
				DE 2001-10110051A	20010302
OS	CASREACT 137:201430; MARPAT 137:201430				
IT	66117-64-4P, Di(p-tolyl)borinic acid				
	RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)				
RN	66117-64-4 CAPLUS				
CN	Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)				





GI



I

II

AB The process for prepn. of title compds., I and II (R1-R5 = H, Me, straight or branched C1-8 alkyl, F, CnH2n+1-f, n = 1-8, f = 1-2n+1 F, CH(OC1-5 alkyl)2, C(C1-5 alkyl), (OC1-5 alkyl), CH2(OC1-5 alkyl), CHMe(OC1-5 alkyl), C1-5 alkoxy, N(C1-5 alkyl)2, (un)substituted Ph, X, Y, Z = (un)substituted O, N, etc.), by the reaction of chloroarom. with BW'W''W''' (W', W'', W''' = C1-6 alkoxy, F, Cl, Br, I, diorganoamino, organothio, etc.), in a solvent at temp. of -100.degree. to 80.degree. is described. Thus, reaction of PhCl with Li in THF followed by treatment with B(OEt)3 and acidic hydrolysis gave 97% phenylboronic acid.

L4 ANSWER 22 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:643255 CAPLUS

DN 138:296525

TI (I) Zinc aqua and alkoxide complexes: models of zinc enzymes. (II) estimation of the Bronsted acidity of aquatris(perfluorophenyl)borane

AU Bergquist, Catherine Jones

CS Columbia Univ., New York, NY, USA

SO (2001) 165 pp. Avail.: UMI, Order No. DA3028501

From: Diss. Abstr. Int., B 2002, 62(10), 4534

DT Dissertation

LA English

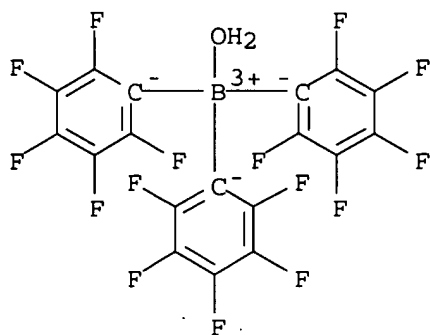
IT 155962-45-1

RL: PRP (Properties)

(Bronsted acidity of)

RN 155962-45-1 CAPLUS

CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



AB Unavailable

L4 ANSWER 23 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:567539 CAPLUS

DN 137:278620

TI Surface-catalyzed degradation of tetraphenylborate on mineral and oxide surfaces

AU Mills, Gary L.; Sandhu, Shingara S.

CS Savannah River Ecology Laboratory, University of Georgia, Aiken, SC, 29802, USA

SO Preprints of Extended Abstracts presented at the ACS National Meeting, American Chemical Society, Division of Environmental Chemistry (2002), 42(2), 152-155

CODEN: PEACF2; ISSN: 1524-6434

PB American Chemical Society, Division of Environmental Chemistry

DT Journal; (computer optical disk)

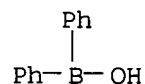
LA English

IT 2622-89-1, Diphenylborinic acid

RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
(formation in surface-catalyzed degrdn. of tetraphenylborate on mineral and oxide surfaces)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

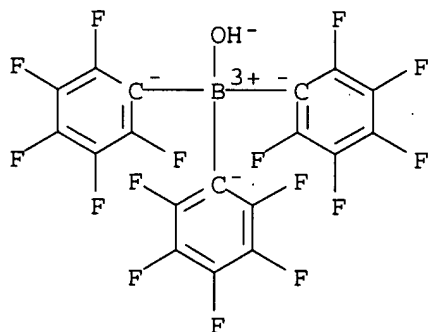


AB The rates of surface-catalyzed degrdn. of tetraphenylborate on Fe2O3, TiO2, Al2O3, and MnO2 were compared. The effect of dioxygen and diphenylboric acid (DPBA) on the TPB degrdn. rate was examd. Kaolinite and montmorillonite were obtained from the ref. mineral collection at the Department of Geol., University of Missouri. The rates of surface-catalyzed degrdn. followed the order TiO2 = Fe2O3 > kaolinite = montmorillonite > MnO2 >> Al2O3. The reaction appeared to be biphasic for TiO2, MnO2, and Fe2O3 with an initial fast reaction followed by a slower degrdn. rate. The primary degrdn. products detected were DPBA and biphenyl. Degrn. rates were faster on the Ca-satd. kaolinite and montmorillonite clay surfaces compared to the Na-satd. clays. The degrdn. rates on untreated clays were similar to that obsd. for the Ca-satd. minerals. Oxygen was required to maintain TPB oxidn. after the initial Lewis acid sites were reduced.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 24 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:555442 CAPLUS
DN 137:110887
TI Process for the narrow-range alkoxylation of fatty alcohols using a
substituted phenylboron-containing catalyst
IN Priou, Christian B.; Beurdeley, Patricia
PA Rhodia, Inc., USA
SO PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

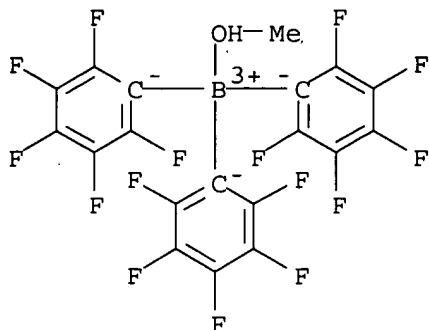
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002057209	A1	20020725	WO 2002-US1024	20020110
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002128521	A1	20020912	US 2001-766533 A	20010119
US 6593500	B2	20030715	US 2001-766533	20010119
OS MARPAT 137:110887				
IT 147892-17-9 155962-46-2				
RL: CAT (Catalyst use); USES (Uses)				
(process for the narrow-range alkoxylation of fatty alcs. using a substituted phenylboron-contg. catalyst)				
RN 147892-17-9 CAPLUS				
CN Borate(1-), hydroxytris(pentafluorophenyl)-, hydrogen; (T-4)- (9CI) (CA INDEX NAME)				



H⁺

RN 155962-46-2 CAPLUS

CN Boron, (methanol)tris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



AB Narrow-range alkoxylates of org. compds. are prepd. by: (a) providing an active hydrogen org. compd. (e.g., 1-dodecanol) having 1-22 carbon atoms; and (b) alkoxylating the org. compd. with an alkylene oxide (e.g., ethylene oxide) in the presence of a phenylboron-contg. catalyst BX3 [e.g., tris(pentafluorophenyl)borane] or HBX4 (X = a Ph moiety having substituents selected from 1-5 fluorine atoms, 1-5 CF₃ moieties, 1-5 OCF₃ or SCF₃ moieties, OR; R = H, alkyl or aryl group having 1-22 carbon atoms). The process affords an alkoxylate product having a very narrow mol.-wt. distribution with a low degree of both residual org. starting material and polyoxyalkylenes.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 25 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:466016 CAPLUS

DN 137:33411

TI Method for purifying fluoroarylboron derivative and bis(fluoroaryl)boron derivative

IN Ikeno, Ikuyo; Mitsui, Hitoshi; Iida, Toshiya; Moriguchi, Toshimitsu

PA Nippon Shokubai Co., Ltd., Japan

SO PCT Int. Appl., 71 pp.

CODEN: PIXXD2

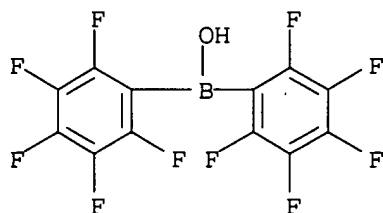
DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002048156	A1	20020620	WO 2001-JP10791	20011210
	W: CN, IL, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
				JP 2000-376612 A	20001211
EP	1342725	A1	20030910	EP 2001-270538	20011210
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
				JP 2000-376612 A	20001211
				WO 2001-JP10791W	20011210
US	2003050282	A1	20030313	US 2002-220635	20020904
				JP 2000-376612 A	20001211
				WO 2001-JP10791W	20011210

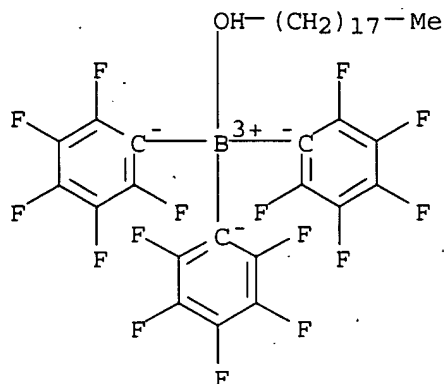
OS MARPAT 137:33411
IT **2118-02-7P**, Bis(pentafluorophenyl)borinic acid
RL: IMF (Industrial manufacture); PUR (Purification or recovery); SPN
(Synthetic preparation); PREP (Preparation)
(method for purifying fluoroarylboron deriv. and bis(fluoroaryl)boron
deriv.)
RN 2118-02-7 CAPLUS
CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB A soln. comprising a fluoroarylboron deriv., a bis(fluoroaryl)boron deriv., and a hydrocarbon solvent is treated to ppt. the fluoroarylboron deriv., which is isolated by first filtration. The resultant filtrate is cooled to ppt. the bis(fluoroaryl)boron deriv., which is isolated by second filtration. In the case where the soln. contains a fluorobenzene, the fluorobenzene is removed by concg. the soln. Thus, a fluoroarylboron deriv. and bis(fluoroaryl)boron deriv. which are free from impurities and have high purity can be easily produced at low cost. Bis(pentafluorophenyl)borinic acid with 100% purity was obtained using the title method.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 26 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:444647 CAPLUS
DN 137:263332
TI A study of representative alcohol, alkoxide, thiol and thiolate complexes of $B(C_6F_5)_3$; their roles as activators of zirconocene olefin polymerization initiators
AU Drewitt, Mark J.; Niedermann, Martina; Kumar, Rajesh; Baird, Michael C.
CS Department of Chemistry, Queen's University, Kingston, ON, K7L 3N6, Can.
SO Inorganica Chimica Acta (2002), 335, 43-51
CODEN: ICHAA3; ISSN: 0020-1693
PB Elsevier Science B.V.
DT Journal
LA English
IT **155962-39-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(alc., alkoxide, thiol and thiolate complexes of $B(C_6F_5)_3$ as activators for zirconocene olefin polymn. initiators)
RN 155962-39-3 CAPLUS
CN Boron, (1-octadecanol)tris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



AB The highly electrophilic borane $B(C_6F_5)_3$ reacts with n-octadecanol (n-C18H37OH) and n-octadecanethiol (n-C18H37SH) to form equil. mixts. of reactants and the 1:1 adducts $(n-C18H37E)B(C_6F_5)_3$ ($E=O, S$); equil. consts. for adduct formation are detd. The adducts are deprotonated by 1,8-bis(dimethylamino)naphthalene (proton sponge) to form the salts $[C10H6(NMe_2)_2H][(n-C18H37O)B(C_6F_5)_3]$ and $[C10H6(NMe_2)_2H][(n-C18H37S)B(C_6F_5)_3]$, resp., and by Cp_2ZrMe_2 to give methane and, apparently, the unstable zirconium complexes $[Cp_2ZrMe][(n-C18H37E)B(C_6F_5)_3]$. The alc., alkoxide, thiol and thiolate systems are characterized in soln. by 1H , ^{19}F , $^{13}C\{^1H\}$ and ^{11}B NMR spectroscopy and in the solid state by FAB mass spectrometry, and it is also shown that proton sponge can coordinate in monodentate fashion to $B(C_6F_5)_3$.

RE.CNT 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 27 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:428913 CAPLUS
DN 137:6275
TI Process for preparing bis(fluoroaryl)boron derivatives
IN Ikeno, Ikuyo; Mitsui, Hitoshi; Iida, Toshiya; Moriguchi, Toshimitsu
PA Nippon Shokubai Co., Ltd., Japan
SO PCT Int. Appl., 29 pp.
CODEN: PIXXD2

DT Patent
LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002044185	A1	20020606	WO 2001-JP10392	20011128
W: CN, IL, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1338601	A1	20030827	JP 2000-369621 A	20001130
			EP 2001-998551	20011128
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
US 2003045507	A1	20030306	JP 2000-369621 A	20001130
			WO 2001-JP10392W	20011128
			US 2002-221029	20020909
			JP 2000-369621 A	20001130
			WO 2001-JP10392W	20011128

OS CASREACT 137:6275; MARPAT 137:6275

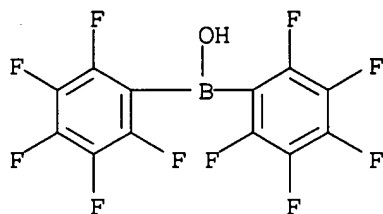
IT 2118-02-7P, Bis(pentafluorophenyl)borinic acid

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(process for prepg. bis(fluoroaryl)boron derivs.)

RN 2118-02-7 CAPLUS

CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB A bis(fluoroaryl)boron deriv. is prepd. by reacting a tris(fluoroaryl)boron with water or the like at a molar ratio ranging from 1 : 0.9 to 1 : 1.1 in a hydrocarbon solvent. The title compds. are useful as intermediates for pharmaceuticals, agrochems., polymn. catalysts, etc. It is preferable that the reaction be carried out while the solvent is distd. off and the solvent consist substantially of an aliph. hydrocarbon. Thus, high-purity bis(fluoroaryl)boron derivs. can be prepd. and isolated easily and inexpensively. Thus, a mixt. of tris(pentafluorophenyl)boron and water in Isopar E was heated at 100.degree. for 4 h to give bis(pentafluorophenyl)borinic acid in 99% yield, vs. 41% yield in a ref. process.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 28 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:428912 CAPLUS

DN 137:20467

TI Preparation of diarylborinic acid esters as DNA methyl transferase inhibitors

IN Benkovic, Stephen J.; Shapiro, Lucille; Baker, Stephen J.; Wahnon, Daphne C.; Wall, Mark; Shier, Vincent K.; Scott, Charles P.; Baboval, Justin

PA The Penn State Research Foundation, USA

SO PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

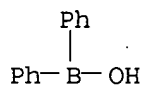
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002044184	A2	20020606	WO 2001-US45129	20011129
	WO 2002044184	A3	20030227		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

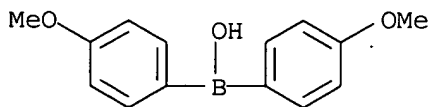
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2000-250202PP 20001130

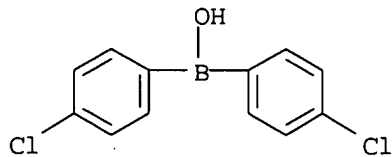
AU 2002039407 A5 20020611 AU 2002-39407 20011129
 US 2000-250202PP 20001130
 WO 2001-US45129W 20011129
 EP 1339725 A2 20030903 EP 2001-987166 20011129
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2000-250202PP 20001130
 WO 2001-US45129W 20011129
 OS CASREACT 137:20467; MARPAT 137:20467
 IT **2622-89-1P**, Diphenylborinic acid **73774-45-5P**,
 Di(4-methoxyphenyl)borinic acid **89566-59-6P**,
 Di(4-chlorophenyl)borinic acid **161800-66-4P**,
 Di(3,4-methylenedioxyphenyl)borinic acid **176913-70-5P**,
 Di(4-fluorophenyl)borinic acid **433338-06-8P**,
 Di(3-chlorophenyl)borinic acid **433338-07-9P**,
 Di(4-chloro-2-fluorophenyl)borinic acid
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and esterification of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



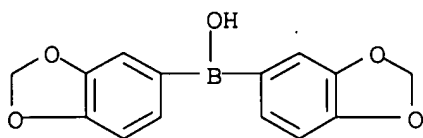
RN 73774-45-5 CAPLUS
 CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 89566-59-6 CAPLUS
 CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)

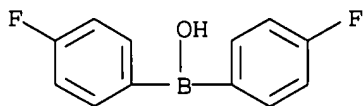


RN 161800-66-4 CAPLUS
 CN Borinic acid, bis(1,3-benzodioxol-5-yl)- (9CI) (CA INDEX NAME)



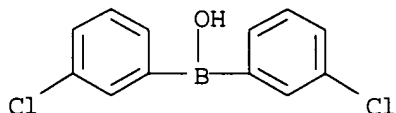
RN 176913-70-5 CAPLUS

CN Borinic acid, bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)



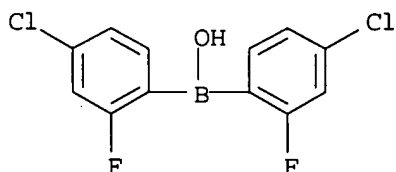
RN 433338-06-8 CAPLUS

CN Boronic acid, bis(3-chlorophenyl)- (9CI) (CA INDEX NAME)



RN 433338-07-9 CAPLUS

CN Boronic acid, bis(4-chloro-2-fluorophenyl)- (9CI) (CA INDEX NAME)



AB This invention provides prepn. of diarylborinic acid esters as broad-spectrum antibiotics that are inhibitors of bacterial adenine DNA methyltransferases. Thus, reaction of dichloroborane di-Me sulfide complex with 4-FC6H4MgBr in THF followed by acidic workup gave di(4-fluorophenyl)borinic acid which on treatment with 8-hydroxyquinoline in EtOH gave di(4-fluorophenyl)borinic acid 8-hydroxyquinoline ester. The biol. activity of the compds. prepd. are given.

L4 ANSWER 29 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:296406 CAPLUS

DN 137:47258

TI Surface organometallic chemistry of main group elements: selective synthesis of silica supported [t.plbond.Si-OB(C6F5)3]-[HNEt2Ph]+

AU Millot, Nicolas; Cox, Andrew; Santini, Catherine C.; Molard, Yann; Basset, Jean-Marie

CS Laboratoire de Chimie Organometallique de Surface, CNRS-ESCP Lyon, Villeurbanne, 69626, Fr.

SO Chemistry--A European Journal (2002), 8(6), 1438-1442
CODEN: CEUJED; ISSN: 0947-6539

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

OS CASREACT 137:47258

IT 438536-83-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and modeling of partially dehydroxylated silica-supported
 ammonium borate by)

RN 438536-83-5 CAPLUS

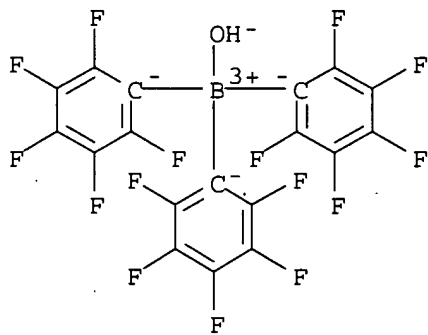
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with
 N,N-diethylbenzenamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 147892-17-9

CMF C18 H B F15 O . H

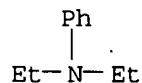
CCI CCS

● H⁺

CM 2

CRN 91-66-7

CMF C10 H15 N



IT 438536-83-5DP, partially dehydroxylated silica-supported
 with/without deuterium and partial oxygen-18 labeling of silica

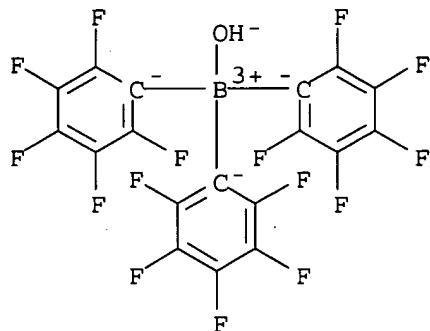
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (selective synthesis and mol. modeling of)

RN 438536-83-5 CAPLUS

CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with
 N,N-diethylbenzenamine (1:1) (9CI) (CA INDEX NAME)

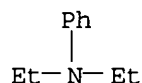
CM 1

CRN 147892-17-9
 CMF C18 H B F15 O . H
 CCI CCS



CM 2

CRN 91-66-7
 CMF C10 H15 N

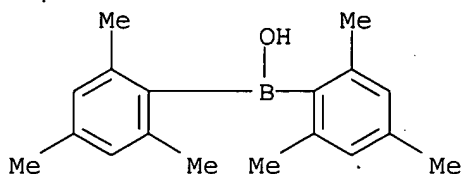


AB The reaction of the Lewis acid B(C₆F₅)₃ with silanol groups of SiO₂ surfaces, dehydroxylated at different temps. (300, 500, 700, and 800.degree.), was studied in presence of the Bronsted base NET₂Ph. The structure of the resulting modified SiO₂ supports [.tpltbond.Si-OB(C₆F₅)₃] - [HNET₂Ph]⁺ (1) was carefully identified by IR and multinuclear solid-state NMR spectroscopies, isotopic ²H and ¹⁸O labeling, elemental anal., mol. modeling, and comparison with synthesized mol. models. Highly dehydroxylated SiO₂ surfaces were required to transform selectively each silanol group into unique [.tpltbond.Si-OB(C₆F₅)₃] - [HNET₂Ph]⁺ fragments. For lower dehydroxylation temps., two sorts of surface sites were coexisting on SiO₂: the free silanol groups [.tpltbond.SiOH] and the ionic species 1.

RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 30 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:252591 CAPLUS
 DN 137:6242
 TI Reactions of Hydroxymesitylboranes with Metal Alkyls: An Approach to New Sterically Hindered (Metaloxy)mesitylboranes
 AU Anulewicz-Ostrowska, Romana; Lulinski, Sergiusz; Pindelska, Edyta; Serwatowski, Janusz

CS Faculty of Chemistry, University of Warsaw, Warsaw, 02-093, Pol.
SO Inorganic Chemistry (2002), 41(9), 2525-2528
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
OS CASREACT 137:6242
IT 20631-84-9
(prepn. of)
RN 20631-84-9 CAPLUS
CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



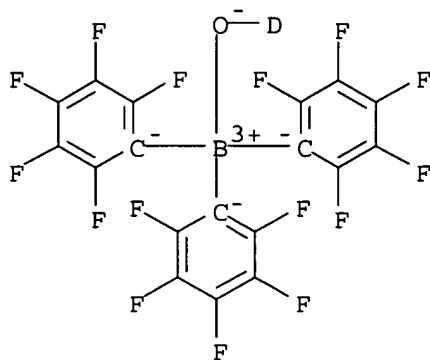
AB Reactions of mesitylboronic acid with alkyl derivs. of aluminum R_3Al ($R = Me, Et, Bui$), gallium (Me_3Ga), and zinc (Et_2Zn) were investigated. The treatment of mesitylboronic acid, $MesB(OH)_2$, with trimethylgallium afforded the discrete dimer $[\mu-(MesB(OH)O)GaMe_2]_2$ (1), which is the simple example of a O-metalated boronic acid with no hydrogen bonding in the crystal lattice. In addn., the reaction of dimesitylborinic acid, Mes_2BOH , with diethylzinc produced the low-valent zinc compd. $[(\mu-Mes_2BO)ZnEt]_2$ (2), which was also characterized by x-ray diffraction.

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 31 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2002:67407 CAPLUS
DN 136:288131
TI Reactivity of the B-H Bond in Tris(pyrazolyl)hydroborato Zinc Complexes: Unexpected Example of Zinc Hydride Formation in a Protic Solvent and Its Relevance towards Hydrogen Transfer to NAD^+ Mimics by Tris(pyrazolyl)hydroborato Zinc Complexes in Alcoholic Media
AU Bergquist, Catherine; Koutcher, Lawrence; Vaught, Amanda L.; Parkin, Gerard
CS Department of Chemistry, Columbia University, New York, NY, 10027, USA
SO Inorganic Chemistry (2002), 41(4), 625-627
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
IT 405879-87-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(attempted hydrogen transfer reaction from)
RN 405879-87-0 CAPLUS
CN Zinc(1+), aqua-d2-[tris[3-(1,1-dimethylethyl)-5-methyl-1H-pyrazolato-.kappa.N1]hydroborato(1-)-.kappa.N2,.kappa.N2',.kappa.N2'']-, (T-4)-, (T-4)-hydroxy-d-tris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

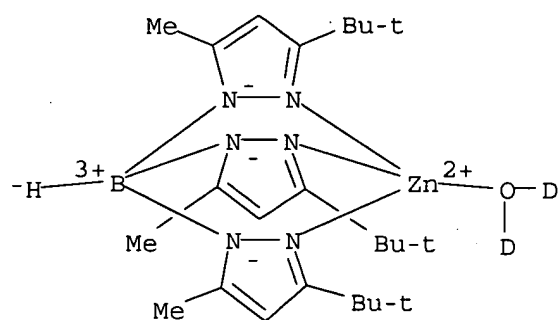
CM 1

CRN 405879-86-9
 CMF C18 B D F15 O
 CCI CCS



CM 2

CRN 405879-85-8
 CMF C24 H40 B D2 N6 O Zn
 CCI CCS



IT 243121-77-9

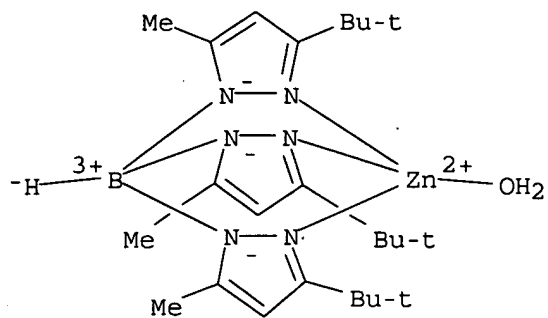
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
 (dissoln. in deuterated methanol)

RN 243121-77-9 CAPLUS

CN Zinc(1+), aqua[tris[3-(1,1-dimethylethyl)-5-methyl-1H-pyrazolato-.kappa.N1]hydroborato(1-)-.kappa.N2,.kappa.N2',.kappa.N2'']-, (T-4)-, (T-4)-hydroxytris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 243121-76-8
 CMF C24 H42 B N6 O Zn
 CCI CCS

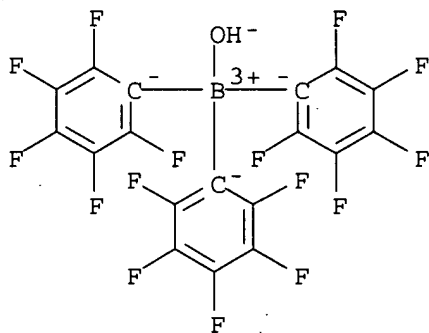


CM 2

CRN 148657-98-1

CMF C18 H B F15 O

CCI CCS



IT 405879-95-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(zinc deuteride complex from dissoln. of)

RN 405879-95-0 CAPLUS

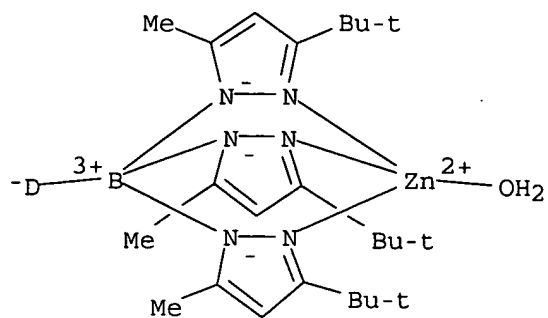
CN Zinc(1+), aqua[tris[3-(1,1-dimethylethyl)-5-methyl-1H-pyrazolato-
.kappa.N1]hydro-d-borato(1-)-.kappa.N2,.kappa.N2',.kappa.N2'']-, (T-4)-,
(T-4)-hydroxytris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 405879-94-9

CMF C24 H41 B D N6 O Zn

CCI CCS

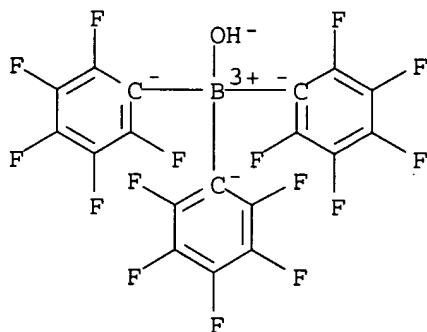


CM 2

CRN 148657-98-1

CMF C18 H B F15 O

CCI CCS



AB Solns. of the Zn hydroxide complex [TpBut,Me]ZnOH in alcs. (ROH; R = Me, Et, Pri) achieve hydride transfer to the NAD⁺ model, 10-methylacridinium perchlorate. D labeling studies, however, demonstrate that the source of the hydride is not the alc. but, rather, the B-H group of the [TpBut,Me] ligand. A further example in which a [TpBut,Me] ligand acts as a hydride donor is provided by the reaction of the aqua complex { [TpBut,Me]Zn(OH₂) } [HOB(C₆F₅)₃] with MeOH to generate the Zn hydride complex [TpBut,Me]ZnH. The present study therefore provides a caveat for the often assumed inertness of the B-H group in tris(pyrazolyl)hydroborato ligands, esp. in the presence of reactive cationic species.

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 32 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2002:45655 CAPLUS

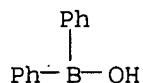
DN 137:33348

TI A new organodithiophosphoric derivative; synthesis and structural characterization of bis(diphenylborano)dithiophosphoric [(C₆H₅)₂BO]₂P(S)SH
AU Gabriela, Cretiu; Reka, Torok; Delia, Bugnariu; Oxana, Jeman; Silaghi-Dumitrescu, Ioan

CS Universitatea "Babes-Bolyai", Facultatea de Chimie si Inginerie Chimica, Cluj-Napoca, RO-3400, Rom.

SO Studia Universitatis Babes-Bolyai, Chemia (1999), 44(1-2), 177-182

CODEN: SUBCAB; ISSN: 1224-7154
 PB Studia Universitatis Babes-Bolyai
 DT Journal
 LA English
 OS CASREACT 137:33348
 IT **2622-89-1P**
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and reaction with phosphorus pentasulfide to give
 bis(diphenylborano)dithiophosphoric)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB A new organo deriv. of dithiophosphoric acid (RO)₂P(S)SH was obtained by the reaction of P pentasulfide (P₄S₁₀) with diphenylborinic acid. IR, ¹H, ¹³C, ¹¹B and ³¹P NMR spectra of intermediates and the main product are discussed. Geometrical parameters (distances in Å, angles in degrees) for the min. energy structure were studied by ab initio RHF/3-21G* using Spartan version 5.0 installed on a SGI Octane.
 RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 33 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2002:10467 CAPLUS
 DN 136:69823
 TI Preparation of imidazole derivatives or salts thereof and drugs containing the derivatives or the salts
 IN Konno, Fujiko; Nagao, Yoshihiro; Isomae, Kazuo; Ohtsuka, Märi; Takahashi, Yoshiyuki; Ishii, Fumio; Hirota, Hiroyuki; Takeda, Sunao; Kawamoto, Noriyuki; Honda, Haruyoshi; Sato, Susumu
 PA Ssp Co., Ltd., Japan
 SO PCT Int. Appl., 53 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002000648	A1	20020103	WO 2001-JP4836	20010608
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG JP 2000-194024 A 20000628 AU 2001064223 A5 20020108 AU 2001-64223 20010608 JP 2000-194024 A 20000628 WO 2001-JP4836 W 20010608				

EP 1295880 A1 20030326 EP 2001-938563 20010608
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2000-194024 A 20000628
 WO 2001-JP4836 W 20010608

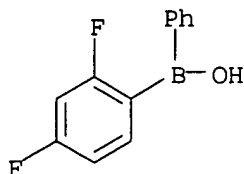
OS MARPAT 136:69823

IT 385414-95-9

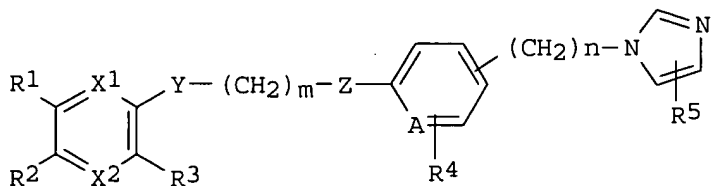
RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of imidazole derivs. or salts thereof and drugs contg. derivs.
 or salts)

RN 385414-95-9 CAPLUS

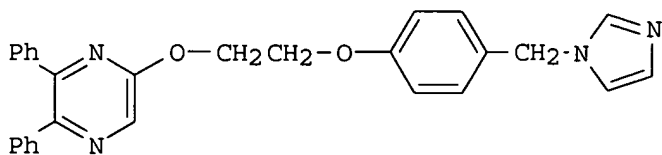
CN Borinic acid, (2,4-difluorophenyl)phenyl- (9CI) (CA INDEX NAME)



GI



I



II

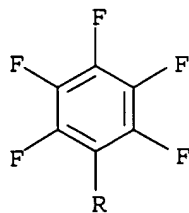
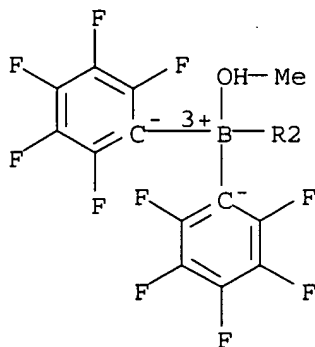
AB Title compds. [I; R1, R2 each independently = aryl, heteroaryl; A, X1, X2 each independently = N, CH; Y, Z each independently = O, S, NH, SO2, CH2, NCH3; R3, R4, R5 each independently = H, alkyl, NH2, alkoxy, Cl; m = 1, 2, 3, 4; n = 0, 1, 2, 3, 4] and salts are prepd. and formulation discussed. Title compds. I exhibit excellent inhibitory activities against the prodn. of NO and IL-6 and are useful in the prevention or treatment of diseases resulting from over-development of NO and IL-6. Thus, the title compd. II was prepd. and tested as antiinflammatory in male ICR mouse with inhibition result at 30.5% for 3 mg/kg dosage.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

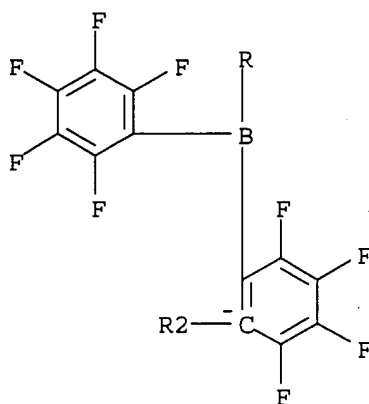
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 34 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:918130 CAPLUS
DN 136:183894
TI Anion Stability in Stannylum, Oxonium, and Silylium Salts of the Weakly
Coordinating Anion [C₆F₄-1,2-{B(C₆F₅)₂}₂(.mu.-OCH₃)]-
AU Henderson, Lee D.; Piers, Warren E.; Irvine, Geoffrey J.; McDonald, Robert
CS Department of Chemistry, University of Calgary, Calgary, AB, T2N 1N4, Can.
SO Organometallics (2002), 21(2), 340-345
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 136:183894
IT **400644-12-4P 400644-13-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 400644-12-4 CAPLUS
CN Boron, [2-[bis(pentafluorophenyl)boryl]-3,4,5,6-
tetrafluorophenyl] (methanol)bis(pentafluorophenyl)-, (T-4)- (9CI) (CA
INDEX NAME)

PAGE 1-A



PAGE 2-A

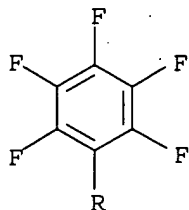
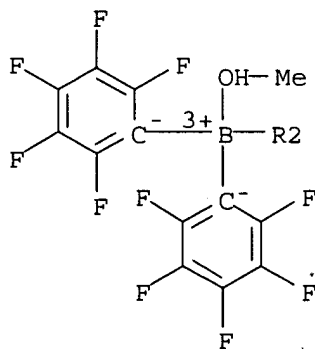


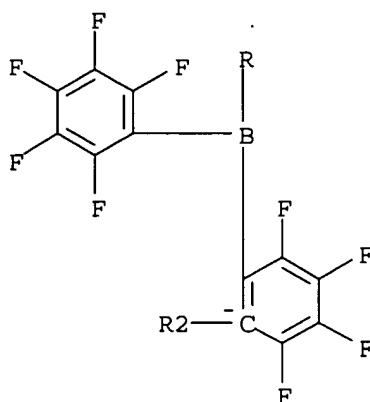
RN 400644-13-5 CAPLUS
 CN Boron, [2-[bis(pentafluorophenyl)boryl]-3,4,5,6-tetrafluorophenyl](methanol)bis(pentafluorophenyl)-, (T-4)-, compd. with methanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 400644-12-4
 CMF C31 H4 B2 F24 O
 CCI CCS

PAGE 1-A





CM 2

CRN 67-56-1

CMF C H4 O

H₃C-OH

AB Reaction of [Ph₃C]⁺[C₆F₄-1,2-{B(C₆F₅)₂}₂(μ-OCH₃)]⁻, 1, with Bu₃SnH gives the solvated stannylum ion [Bu₃Sn(arene)]⁺[C₆F₄-1,2-{B(C₆F₅)₂}₂(μ-OCH₃)]⁻, 2, as a light brown oil (Δ. 119Sn = 434 ppm). This material is thermodynamically stable toward transfer of the chelated OMe⁻ anion to "Bu₃Sn⁺" as evidenced by the reaction of free diborane C₆F₄-1,2-[B(C₆F₅)₂]₂ with 2 equiv. of Bu₃SnOMe. This reaction produces the stannyloxonium complex [(Bu₃Sn)OCH₃]⁺[C₆F₄-1,2-{B(C₆F₅)₂}₂(μ-OCH₃)]⁻, 3 (Δ. 119Sn = 277 ppm), which is stable at -60.degree.. Upon warming, the cation in 3 undergoes decompn. to unidentified products, while the anion remains intact. Ion pair 2 reacts rapidly with ethereal HCl in CH₂Cl₂ to generate Bu₃SnCl and the oxonium acid [(Et₂O)H]⁺[C₆F₄-1,2-{B(C₆F₅)₂}₂(μ-OCH₃)]⁻, 4, isolated in 76% yield as a white, cryst. solid. Acid 4 is thermally stable in soln. and was characterized crystallog. The C₂B₂O₂ core of the anion in 4 deviates from planarity due to intermol. interactions in the crystal, in contrast to the structures found in other ion pairs with this anion. Reaction of 2 with anhyd. HCl gives the unsym. MeOH adduct of C₆F₄-1,2-[B(C₆F₅)₂]₂, 5, which was sep. synthesized by direct reaction of methanol with the free diborane. The anion [C₆F₄-1,2-{B(C₆F₅)₂}₂(μ-OCH₃)]⁻ is not stable in the presence of the triethylsilylium ion, generated from 1 and Et₃SiH.

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 35 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:872310 CAPLUS

DN 136:200214

TI Synthesis and structural studies on fluorophenylboron azides

AU Fraenk, Wolfgang; Klapotke, Thomas M.; Krumm, Burkhard; Mayer, Peter; Noth, Heinrich; Piotrowski, Holger; Suter, Max

CS Department of Chemistry, University of Munich, Munich, D-81377, Germany

SO Journal of Fluorine Chemistry (2001), 112(1), 73-81

CODEN: JFLCAR; ISSN: 0022-1139

PB Elsevier Science S.A.

DT Journal

LA English

IT 401844-91-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and crystal structure of)

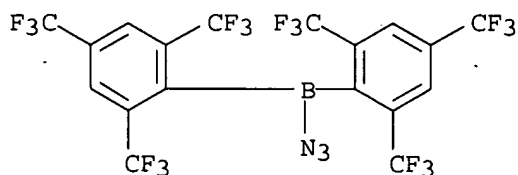
RN 401844-91-5 CAPLUS

CN Borinic acid, bis[2,4,6-tris(trifluoromethyl)phenyl]-, compd. with
azidobis[2,4,6-tris(trifluoromethyl)phenyl]borane (1:1) (9CI) (CA INDEX
NAME)

CM 1

CRN 401844-84-6

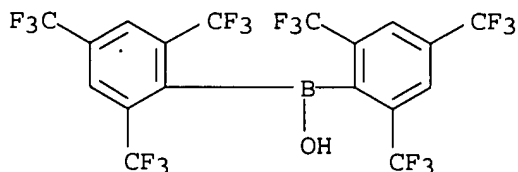
CMF C18 H4 B F18 N3



CM 2

CRN 192823-38-4

CMF C18 H5 B F18 O



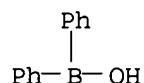
AB The fluorophenyl substituted boron chlorides (RF)₂BCl and dichlorides RFBCl₂ (RF = 2,6-F₂C₆H₃, 2-FC₆H₄) were prepd. using stannylated aryl transfer reagents (RF)₂SnMe₂. The boron azides (RF)₂BN₃, [2,4,6-(CF₃)₃C₆H₂]₂BN₃, and diazides RFB(N₃)₂ were synthesized by the reaction of the corresponding boron chlorides (RF)₂BCl, [(CF₃)₃C₆H₂]₂BCl, and RFBCl₂ with Me₃SiN₃. The influence of the electron withdrawing substituents on the mol. structure of these azides is discussed. The reactions were also performed in the presence of pyridine yielding the adducts (RF)₂BN₃.cntdot.py and RFB(N₃)₂.cntdot.py. All compds. were characterized by multinuclear NMR, vibrational (IR, Raman) spectroscopy; and the mol. structures of several were established by single crystal x-ray crystallog.

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 36 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:744009 CAPLUS

DN 137:10926
TI Crosslink formation in porcine valves stabilized by dye-mediated photooxidation
AU Adams, A. K.; Talman, E. A.; Campbell, L.; McIlroy, B. K.; Moore, M. A.
CS Sulzer Carbomedics, Austin, TX, 78752-1793, USA
SO Journal of Biomedical Materials Research (2001), 57(4), 582-587
CODEN: JBMRBG; ISSN: 0021-9304
PB John Wiley & Sons, Inc.
DT Journal
LA English
IT 2622-89-1, Di-phenyl borinic acid
RL: BSU (Biological study, unclassified); MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(crosslink formation in porcine valves stabilized by dye-mediated photooxidn.)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

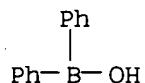


AB Bovine pericardial and porcine valve materials stabilized by dye-mediated photooxidn. have shown potential for bioprosthetic valve use. Previously, in vitro and in vivo stability of these materials was demonstrated through enzymic, chem., extn., rat s.c., and functional challenges. Here, we examine the stability of photooxidized porcine aortic valves through amino acid, crosslink, and hydrothermal isometric tension anal. Photooxidn. reduced intact histidine residues from 17.0 to 0 residues per 1000, indicating the photooxidative alteration of this amino acid. Di-Ph borinic acid-derivatized hydrolyzates of proteins were sepd. by high-performance liq. chromatog., which identified several amino acid crosslinks that appeared with photooxidn. that were absent in untreated controls. Thermal relaxation anal. indicated a significantly higher ($p < 0.0002$) thermal stability for photooxidized porcine cusps than that of untreated controls, with mean relaxation times for untreated cusps of $14,000. \pm .4650$ vs. $22,900. \pm .2480$ s for photooxidized cusps. In summary, porcine aortic valve tissue treated by dye-mediated photooxidn. contains new chem. species and exhibits properties consistent with intermol. crosslink formation, which explain the increased biostability of this material and its potential for use in bioprosthetic devices.

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 37 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:729439 CAPLUS
DN 136:144922
TI Toxicity and hypotensive effect of L-arginine oxoborolidinone and its modulation by methylene blue as compared to L-arginine, nitrite and nitrate
AU Avila, Martha Elena Bravo; Alvarez, Juan Manuel Araujo; Quezada, Arturo Bustamante; Ferrara, Jose Guadalupe Trujillo
CS Depto. de Bioquimica, Lab. de Bioquimica Medica I, Escuela Superior de Medicina, Mexico, DF, 11340, Mex.
SO Archivos de Cardiologia de Mexico (2001), 71(3), 193-198
CODEN: ACMRCR; ISSN: 1405-9940

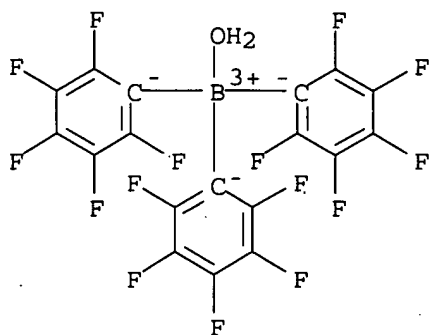
PB Instituto Nacional de Cardiologia "Ignacio Chavez"
DT Journal
LA Spanish
IT **2622-89-1**, Diphenylborinic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(L-arginine oxoborolidinone hypotensive and toxic effects and their
modulation by methylene blue as compared to L-arginine, Na nitrite and
Na nitrate in Wistar rats)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB NO is synthesized by constitutive nitric oxide synthase from the guanidine group of L-arginine. The hypotensive effects of L-arginine oxoborolidinone were compared with the effects of L-arginine HCl, Na nitrite, and Na nitrate in male and female Wistar rats (250-300 g). The modulation of the L-arginine oxoborolidinone hypotensive effects by methylene blue, a synthetic phenothiazine inhibitor of guanylate cyclase, was examd. L-arginine, L-arginine oxoborolidinone, nitrite, and nitrate showed dose-dependent hypotensive effects after injection into the femoral vein of the rats. The hypotensive effects were shifted to the right after treatment with methylene blue. The L-arginine oxoborolidinone toxicity LD50 value was 169.0 mg/kg body wt. Methylene blue also attenuated the toxic effects of all the compds. tested.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

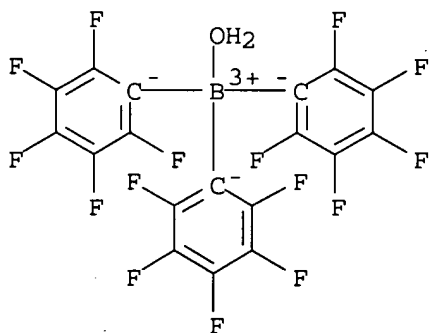
L4 ANSWER 38 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:718674 CAPLUS
DN 136:20104
TI 1H and 19F NMR Investigation of the Reaction of B(C6F5)3 with Water in Toluene Solution
AU Beringhelli, Tiziana; Maggioni, Daniela; D'Alfonso, Giuseppe
CS Dipartimento di Chimica Inorganica Metallorganica e Analitica, Milan, 20133, Italy
SO Organometallics (2001), 20(23), 4927-4938
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
IT **155962-44-0 155962-45-1**, Aquatris(pentafluorophenyl)boron **312640-05-4**
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)
(proton and fluorine NMR investigation of reaction of
tris(pentafluorophenyl)borane with water in toluene soln.)
RN 155962-44-0 CAPLUS
CN Boron, aquatris(pentafluorophenyl)-, dihydrate, (T-4)- (9CI) (CA INDEX NAME)



● 2 H₂O

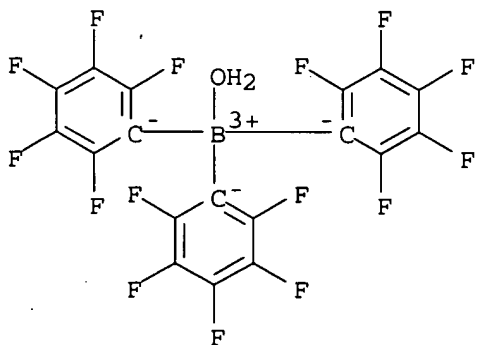
RN 155962-45-1 CAPLUS

CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



RN 312640-05-4 CAPLUS

CN Boron, aquatris(pentafluorophenyl)-, monohydrate, (T-4)- (9CI) (CA INDEX NAME)



H₂O

AB Titrs. of B(C₆F₅)₃ (1) with water, in toluene-d₈ soln., monitored by ¹⁹F and ¹H NMR at 196 K, showed first the formation of the adduct [(C₆F₅)₃B(OH₂)] (2) and then its stepwise transformation into the two aqua species [(C₆F₅)₃B(OH₂)]·H₂O (3) and [(C₆F₅)₃B(OH₂)]·2H₂O (4) contg., resp., one or two water mols. hydrogen-bonded to the protons of the B-bound water mol. The NMR data show that in each titrn. step only two species were present in significant concn.: 1 and 2 up to 1 equiv., 2 and 3 between 1 and 2 equiv., 3 and 4 between 2 and 3 equiv. Above 3 equiv. the solns. rapidly attained satn. and phase sepn. occurred (although there was evidence of interaction of 4 with more water mols.). Titrs. at room temp. indicated an analogous stepwise course. Variable-temp. expts. demonstrated water exchange between the different aqua species and between the different water sites in the adducts 3 and 4 ("internal" or B-bound and "external" or H-bound). The rate of these processes increased with the amt. of water bonded to B(C₆F₅)₃. The exchange of B-bound water among the different B(C₆F₅)₃ mols. (resulting in the 1 .dblharw. 2 interconversion) caused the averaging of the ¹⁹F resonances of 1 and 2, above 273 K. Band shape anal. in the temp. range 235-312 K provided the kinetic consts., whose dependence on the concn. revealed a dissociative mechanism (.DELTA.H.thermod. 67(2) kJ mol⁻¹, .DELTA.S.thermod. 58(7) J mol⁻¹ K⁻¹). For the adduct [(C₆F₅)₃B(OH₂)]·H₂O (3), four different dynamic processes have been recognized: (i) the exchange of H-bound water among different [(C₆F₅)₃B(OH₂)] adducts (the 2 .dblharw. 3 exchange) or (ii) among different [(C₆F₅)₃B(OH₂)]·H₂O adducts (the 3 .dblharw. 4 exchange), (iii) the exchange between H-bound and B-bound water, (iv) the hopping of H-bound water between the two protons of B-bound water. This process was so fast that an averaged signal for the protons of internal water was obsd. even at 187 K. The rate of the process (i) increased with the concn. of 2, so that sep. ¹⁹F and ¹H signals for 2 and 3 were obsd. only in very dil. solns. at the lowest temps. Linear plots of the kinetic consts. (estd. from ¹H NMR spectra in the near fast exchange region, temp. range 188-214 K) vs. the concn. of 2 allowed the estn. of the const. for the dissociative pathway (4 orders of magnitude faster than for the exchange of B-bound water) and for the bimol. pathway [.DELTA.H.thermod. 30(2) kJ mol⁻¹, .DELTA.S.thermod. 3(10) J mol⁻¹ K⁻¹]. Process (ii) was too fast on the NMR time scale to allow any kinetic investigation. Process (iii) caused the parallel broadening of both the ¹H signals of 3 at T > 225 K, with a rate quite close to that of the dissociative exchange of water among different B(C₆F₅)₃ mols. The activation parameters (.DELTA.H.thermod. 55(2) kJ mol⁻¹, .DELTA.S.thermod. 7(3) J mol⁻¹ K⁻¹, temp. range 233-273 K) allowed no discrimination between the exchange of an entire water mol. and the mere exchange of protons. Even small amts. of 4 accelerated process (iii), due to the occurrence of two much faster processes: the 3 .dblharw. 4 exchange and the exchange between the protons of internal and external water in 4. The study of any kind of water mobility concerning the trihydrate 4 was prevented by the occurrence of proton exchange processes (so fast as to broaden the signals of internal and external water even at 188 K), possibly favored by the acidic dissocn. of the protons of the B-bonded water mol. of 4.

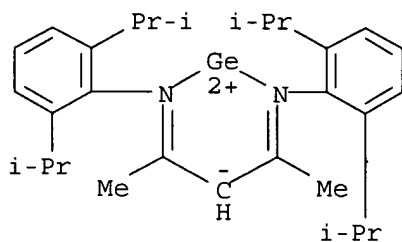
RE.CNT 71 THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 39 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:663995 CAPLUS
DN 135:365956
TI Characterization and Bonding of the Cation [Ge{N(C₆H₃-2,6-i-Pr₂)CMe}₂CH]⁺:
Comparison with the Isoelectronic Ga{N(C₆H₃-2,6-i-Pr₂)CMe}₂CH
AU Stender, Matthias; Phillips, Andrew D.; Power, Philip P.

CS Department of Chemistry, University of California Davis, Davis, CA, 95616, USA
 SO Inorganic Chemistry (2001), 40(21), 5314-5315
 CODEN: INOCAJ; ISSN: 0020-1669
 PB American Chemical Society
 DT Journal
 LA English
 IT **373383-59-6P**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and electronic and crystal structure and)
 RN 373383-59-6 CAPLUS
 CN Germanium(1+), [[N,N'-(1,3-dimethyl-1,3-propanediylidene)bis[2,6-bis(1-methylethyl)benzenamino-.kappa.N]](1-)]-, .mu.-hydroxyhexakis(pentafluorophenyl)diborate(1-) (9CI) (CA INDEX NAME)

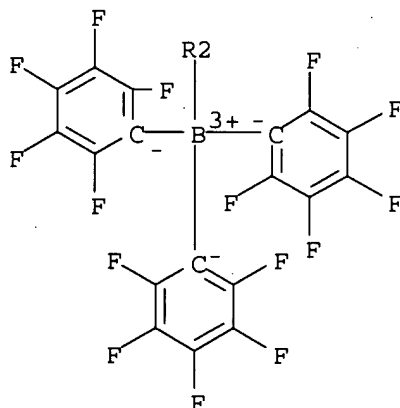
CM 1

CRN 373383-58-5
 CMF C29 H41 Ge N2
 CCI CCS



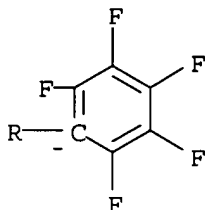
CM 2

CRN 219697-03-7
 CMF C36 H B2 F30 O
 CCI CCS

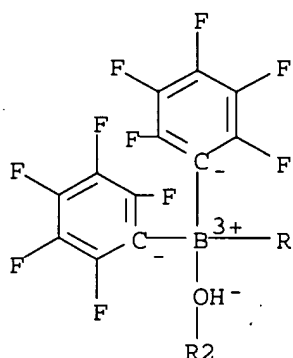


PAGE 1-A

PAGE 2-A



PAGE 3-A



AB Reaction of $\text{Ge}(\text{Cl})\text{Dipp2nacnac}$ ($\text{Dipp2nacnac} = \{\text{N}(\text{C}_6\text{H}_3\text{-}2,6\text{-i-Pr}_2)\text{C}(\text{Me})\}_2\text{CH}$) with $\text{B}(\text{C}_6\text{F}_5)_3$ in the presence of H_2O affords the salt $[\text{Ge}(\text{Dipp2nacnac})][\text{HO}\{\text{B}(\text{C}_6\text{F}_5)_3\}_2]$ (I) whose cation $[\text{Ge}(\text{Dipp2nacnac})]^+$ is isoelectronic to its neutral gallium analog $\text{Ga}(\text{Dipp2nacnac})$. I is monoclinic, space group $\text{P}2_1/\text{c}$, $Z = 4$, $R_1 = 0.0561$.

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

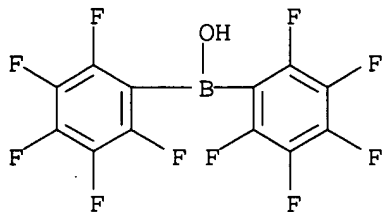
L4 ANSWER 40 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:657548 CAPLUS
DN 135:211145
TI Procedure for the production of mono or di-organo-boranes
IN Kratzer, Roland
PA Basell Polyolefine G.m.b.H., Germany
SO Ger. Offen., 6 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10059717	A1	20010906	DE 2000-10059717	20001130
				DE 2000-10009650A1	20000301
OS	CASREACT 135:211145; MARPAT 135:211145				
IT	2118-02-7P, Bis(pentafluorophenyl)borinic acid 2622-89-1P				
	73774-44-4P 73774-45-5P 89566-59-6P				
	176913-70-5P 279216-31-8P 357437-65-1P				

357437-66-2PRL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

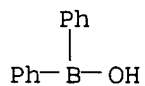
RN 2118-02-7 CAPLUS

CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



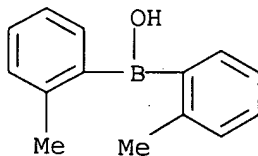
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



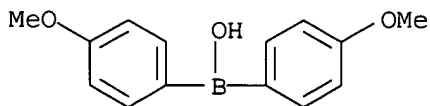
RN 73774-44-4 CAPLUS

CN Borinic acid, bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



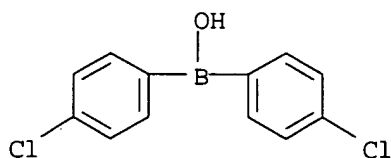
RN 73774-45-5 CAPLUS

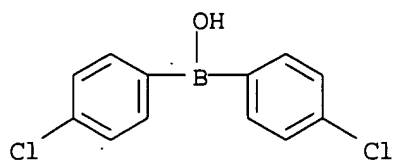
CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 89566-59-6 CAPLUS

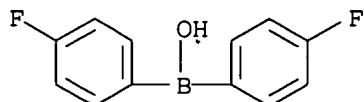
CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)





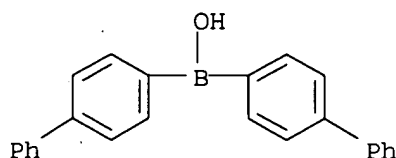
RN 176913-70-5 CAPLUS

CN Borinic acid, bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)



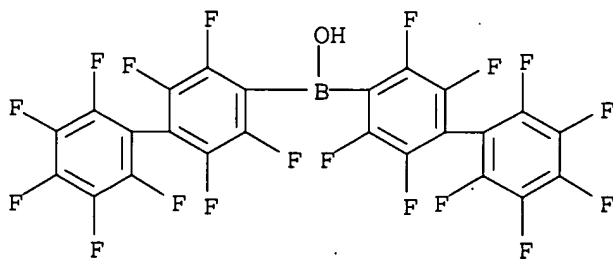
RN 279216-31-8 CAPLUS

CN Borinic acid, bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



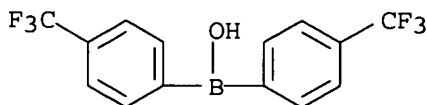
RN 357437-65-1 CAPLUS

CN Borinic acid, bis(2,2',3,3',4',5,5',6,6'-nonafluoro[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



RN 357437-66-2 CAPLUS

CN Borinic acid, bis[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



AB The present invention concerns a new, tech. feasible procedure for the prodn. of mono or di-organo-boranes, (C6R15)1+1M(XR9p)2-1 (R1 = same or

different, H, halo, O-, S-, or N- contg. C1-20-alkyl, C6-14-aryl, C2-10-alkenyl, C7-20-arylalkyl, C7-20-alkylaryl, C1-10-haloalkyl, C6-10-haloaryl, C2-10-alkynyl, C3-20-alkylsilyl, etc., M = Group III main group element, X = same or different, Group V or VI main group element, R9 = H, O-, S-, N- contg. C1-20-alkyl, C6-14-aryl, p = 1-2, l = 0-1). Thus, reaction of BCl₃ with 1-propanol followed by treatment with (pentafluorophenyl)magnesium bromide gave title compd., Pr bis(pentafluorophenyl)boronate.

L4 ANSWER 41 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:657472 CAPLUS

DN 135:211143

TI Procedure for the production of mono or di-organo-boranes

IN Schottek, Joerg; Fritze, Cornelia

PA Targor G.m.b.H., Germany

SO Ger. Offen., 6 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10009714	A1	20010906	DE 2000-10009714	20000301
				DE 2000-10009714	20000301

OS CASREACT 135:211143; MARPAT 135:211143

IT 2118-02-7P 2622-89-1P 73774-44-4P

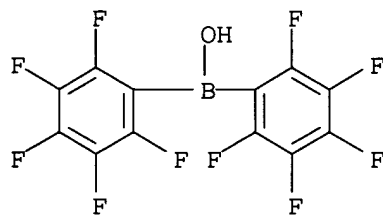
73774-45-5P 89566-59-6P 279216-31-8P

357437-65-1P 357437-66-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

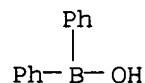
RN 2118-02-7 CAPLUS

CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



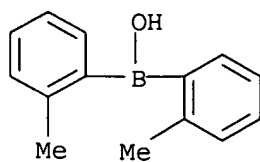
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



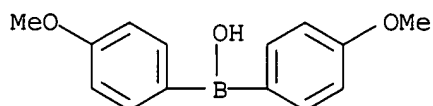
RN 73774-44-4 CAPLUS

CN Borinic acid, bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



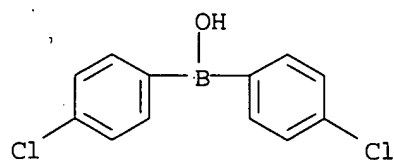
RN 73774-45-5 CAPLUS

CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



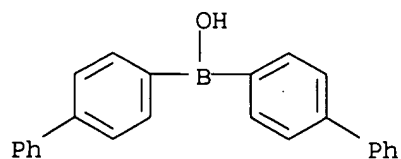
RN 89566-59-6 CAPLUS

CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)



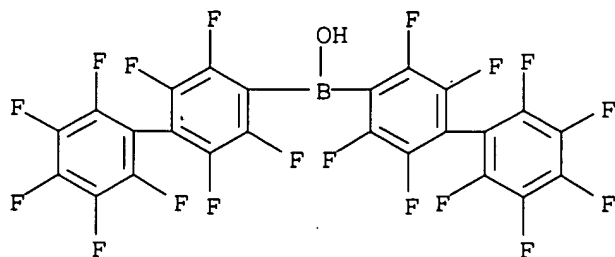
RN 279216-31-8 CAPLUS

CN Borinic acid, bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)

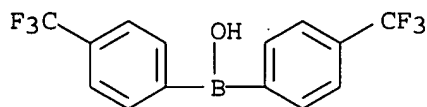


RN 357437-65-1 CAPLUS

CN Borinic acid, bis(2,2',3,3',4',5,5',6,6'-nonafluoro[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



RN 357437-66-2 CAPLUS
 CN Borinic acid, bis[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



AB The present invention concerns a new, tech. well feasible procedure for the prodn. of mono or di-organo-boranes, (C6R15)1+1M(XR9p)2-1 (R1 = same or different H, halo, O-, S-, or N- contg. C1-20-alkyl, C6-14-aryl, C2-10-alkenyl, C7-20-arylalkyl, C7-20-alkyaryl, C1-10-haloalkyl, C6-10-haloaryl, C2-10-alkynyl, C3-20-alkylsilyl, etc., M = main group element, X = Group V, VI main group element, R9 = H, O-, S-, N- contg. C1-20-alkyl, C6-14-aryl, p = 1-2). Thus, lithiation of bromopentafluorobenzene with BuLi in hexane followed by treatment with BCl3 in hexane gave 96% bis(pentafluorophenyl)hydroxyborane.

L4 ANSWER 42 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:621596 CAPLUS

DN 135:344095

TI Catalytic use of a boron source for boron enolate mediated stereoselective aldol reactions in water

AU Mori, Yuichiro; Manabe, Kei; Kobayashi, Shu

CS Graduate School of Pharmaceutical Sciences, The University of Tokyo, CREST Japan Science and Technology Corporation (JST), Tokyo, 113-0033, Japan

SO Angewandte Chemie, International Edition (2001), 40(15), 2815-2818

CODEN: ACIEF5; ISSN: 1433-7851

PB Wiley-VCH Verlag GmbH

DT Journal

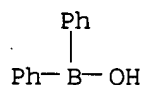
LA English

IT 2622-89-1, Diphenylborinic acid

RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses) (stereoselective Mukaiyama aldol reaction of aldehydes with silyl enol ethers in water under conditions of Lewis acid surfactant combined catalysis with Bronsted acids to facilitate Si-B exchange)

RN 2622-89-1 CAPLUS

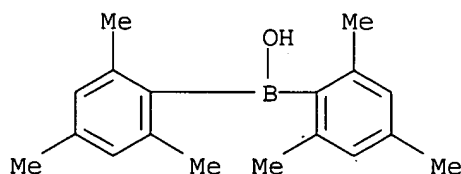
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The stereoselective Mukaiyama aldol reaction of cis-propiophenone trimethylsilyl enolate with PhCHO was performed in water under conditions of Lewis acid surfactant combined catalysis (using diphenylborinic acid 1 and SDS) in the presence of benzoic acid: the best yield (93%) and syn selectivity (syn/anti = 94/6) were obtained when 1 (0.1 equiv), SDS (0.1 equiv), and benzoic acid (0.01 equiv) were used at 0.degree. C. The intermediacy of a boron enolate was discussed, as well as the role of Bronsted acid (benzoic acid) in facilitating Si-B exchange.

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 43 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:557142 CAPLUS
 DN 135:288814
 TI Unusual products in reactions using ethyldimesitylborane, mesityllithium, and carbonyl compounds
 AU Kawashima, Takayuki; Yamashita, Naoko; Kannabe, Tohru; Okazaki, Renji
 CS Department of Chemistry, Graduate School of Science, The University of Tokyo, Tokyo, 113-0033, Japan
 SO Heteroatom Chemistry (2001), 12(5), 354-357
 CODEN: HETCE8; ISSN: 1042-7163
 PB John Wiley & Sons, Inc.
 DT Journal
 LA English
 OS CASREACT 135:288814
 IT **20631-84-9P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 20631-84-9 CAPLUS
 CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB Unusual carbonyl adducts, (E)-Mes₂BCH:CHCHCH₃CRR₁OH (Mes = 2,4,6-Me₃C₆H₂, R, R₁ = Ph, CH₂Ph), were obtained by sequential treatment of ethyldimesitylborane with mesityllithium (<1.0 equiv) and carbonyl compds., e.g., RR₁CO, instead of the normal adducts, Mes₂BCHCH₃CRR₁OH. A mechanistic study was carried out.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 44 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2001:479135 CAPLUS
 DN 135:77275
 TI Metallocene catalyst system and its use for polymerization of olefins
 IN Kratzer, Roland; Fritze, Cornelia; Schottek, Joerg
 PA Targor G.m.b.H., Germany
 SO Ger. Offen., 18 pp.
 CODEN: GWXXBX

DT Patent
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19962814	A1	20010628	DE 1999-19962814	19991223
	WO 2001047635	A2	20010705	WO 2000-EP12641	20001213
	WO 2001047635	A3	20021024		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,				

SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

DE 1999-19962814A 19991223
BR 2000016725 A 20020903 BR 2000-16725 20001213
DE 1999-19962814A 19991223
WO 2000-EP12641W 20001213
EP 1280600 A2 20030205 EP 2000-983307 20001213
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
DE 1999-19962814A 19991223
WO 2000-EP12641W 20001213
US 2003008984 A1 20030109 US 2002-168646 20020624
DE 1999-19962814A 19991223
WO 2000-EP12641W 20001213

OS MARPAT 135:77275

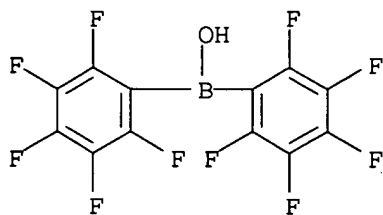
IT 2118-02-7, Bis(pentafluorophenyl)borinic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(supported metallocene catalyst system for polymn. of olefins)

RN 2118-02-7 CAPLUS

CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB The catalyst system, which avoids the use of a large excess of aluminosilane, contains .gtoreq.1 metallocene, .gtoreq.1 Lewis base, .gtoreq.1 carrier and .gtoreq.1 addnl. organometallic compd. Thus, reaction of Me3Al with C6F5B(OH)2 in toluene gave C6F5B(OAlMe2)2 (I). A suspension of SiO2 in toluene was treated with PhCH2NMe2 at room temp. and then with I at .apprx.0.degree. to give a support, which was mixed with [(dimethylsilylene)bis(2-methyl-4-phenylindenyl)]dimethylzirconium and then Me3Al to give a catalyst powder. Polymn. of liq. propylene (pretreated with iso-Bu3Al) with the catalyst powder in heptane at 60.degree. gave 28 kg polypropylene/g metallocene per h.

L4 ANSWER 45 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:447350 CAPLUS

DN 135:223264

TI Carbonic anhydrase inhibitors, interaction of boron derivatives with isozymes I and II: a new binding site for hydrophobic inhibitors at the entrance of the active site as shown by docking studies

AU Chazalotte, Celine; Riviere-Baudet, Monique; Scozzafava, Andrea; Abbate, Francesco; Maarouf, Zahra Ben; Supuran, Claudiu T.

CS Universite Paul Sabatier, Laboratoire d'Heterochimie Fondamentale et Appliquee, UMR 5069 du CNRS, Toulouse, 31062, Fr.

SO Journal of Enzyme Inhibition (2001), 16(2), 125-133

CODEN: ENINEG; ISSN: 8755-5093

PB Harwood Academic Publishers

DT Journal

LA English

OS CASREACT 135:223264

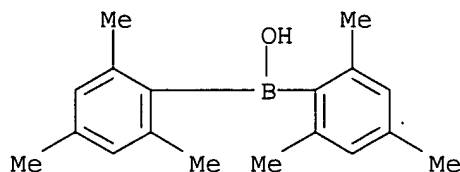
IT 20631-84-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(prepn. and interaction of sulfonamide and non-sulfonamide boron derivs. with carbonic anhydrase isoenzymes I and II)

RN 20631-84-9 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB The interaction of human carbonic anhydrase (hCA) isoenzymes I and II with boron derivs. was investigated by kinetic and spectroscopic studies. These derivs., tested as new inhibitors of carbonic anhydrase, are sulfonamide and non-sulfonamide boron derivs. and some of them proved to be moderately efficient inhibitors of hCA I and hCA II, their activities being comparable to those of the unsubstituted sulfonamides, the classical inhibitors of these zinc enzymes. Ph₂BOH, one of the compds. with the highest affinity for hCA II in the present study, has been docked within the active site. After minimization it was found situated at 7.9 .ANG. from zinc, within the hydrophobic half of the active site, in Van der Waals contacts with the amino acid residues: Val 121; Phe 130, Val 135, Leu 141, Val 143, Val 207 and Pro 201. This is the first time that a CA inhibitor has been found to bind at the edge of the active site cavity, similarly to the CA activator histamine, which binds on the hydrophilic half. This finding may be of importance also for the design of novel types of inhibitors with increased affinity for the different CA isoenzymes.

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 46 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:387341 CAPLUS

DN 135:137536

TI Suzuki Reaction of a Diarylborinic Acid: One-Pot Preparation and Cross-Coupling of Bis(3,5-dimethylphenyl)borinic Acid

AU Winkle, Derick D.; Schaab, Kevin M.

CS Holland Laboratories, Pfizer Global Research and Development, Holland, MI, 49424, USA

SO Organic Process Research & Development (2001), 5(4), 450-451
CODEN: OPRDFK; ISSN: 1083-6160

PB American Chemical Society

DT Journal

LA English

OS CASREACT 135:137536

IT 352212-19-2P

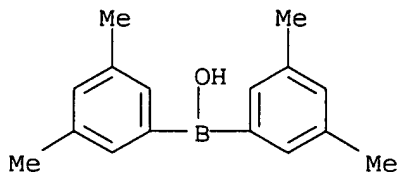
RL: BYP (Byproduct); RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

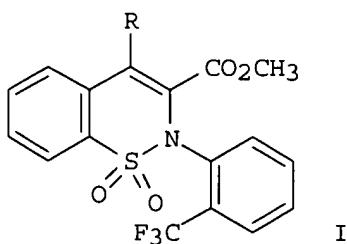
(one-pot prepn. and cross-coupling with cyclic vinyl triflate deriv.)

RN 352212-19-2 CAPLUS

CN Borinic acid, bis(3,5-dimethylphenyl)- (9CI) (CA INDEX NAME)



GI



AB 3,5-Dimethylphenylmagnesium bromide reacted with triisopropyl borate to give 3,5-dimethylphenylboronic acid and bis(3,5-dimethylphenyl)borinic acid. Conditions were found which allowed the clean prepn. of bis(3,5-dimethylphenyl)borinic acid, which was coupled with a vinyl triflate (I; R = OTf) using Suzuki cross-coupling conditions to give the arylated product (I; R = 3,5-dimethylphenyl) in 91% yield. Both aryl groups were efficiently transferred from the B atom in the Suzuki step.

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 47 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:345136 CAPLUS

DN 135:12345

TI Dimethyl(2-methylphenyl)ammonium hydroxotris(pentafluorophenyl)borate

AU Stibrany, Robert T.; Brant, Patrick

CS Corporate Strategic Research, ExxonMobil Research and Engineering Company, Annandale, NJ, 08801, USA

SO Acta Crystallographica, Section C: Crystal Structure Communications (2001), C57(5), 644-645

CODEN: ACSCEE; ISSN: 0108-2701

PB Munksgaard International Publishers Ltd.

DT Journal

LA English

IT 341990-27-0

RL: PRP (Properties)

(crystal structure of)

RN 341990-27-0 CAPLUS

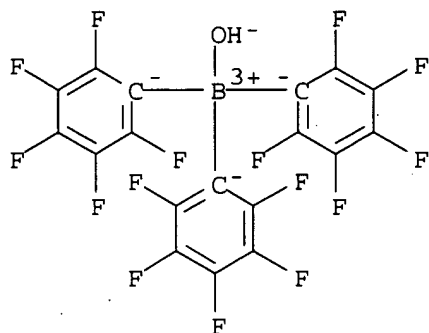
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with N,N,2-trimethylbenzenamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 147892-17-9

CMF C18 H B F15 O . H

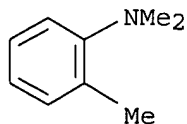
CCI CCS

● H⁺

CM 2

CRN 609-72-3

CMF C9 H13 N



AB In the title compd., [Me₂(C₇H₇)NH] [(C₆F₅)₃B(OH)] or C₉H₁₄N⁺.cntdot.C₁₈HBF₁₅O⁻, the distorted tetrahedral borate anions are strongly H bonded to the substituted ammonium cations. The N...O sepn. in the N-H...O H bond is 2.728(3) .ANG.. Crystallog. data are given.

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 48 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:320008 CAPLUS

DN 134:327285

TI Catalyst for polymerizing and/or crosslinking polyorganosiloxanes with crosslinkable functional groups, corresponding compositions and their uses

IN Frances, Jean-Marc; Deforth, Thomas

PA Rhodia Chimie, Fr.

SO PCT Int. Appl., 50 pp.

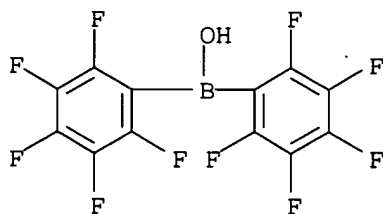
CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

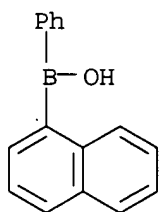
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2001030903	A1	20010503	WO 2000-FR2789	20001006	
	W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
	RW:			GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
	FR 2800380	A1	20010504	FR 1999-13620	A 19991029	
	FR 2800380	B1	20020118	FR 1999-13620	19991029	
	EP 1226210	A1	20020731	EP 2000-967974	20001006	
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL		
				FR 1999-13620	A 19991029	
				WO 2000-FR2789	W 20001006	
	JP 2003515617	T2	20030507	JP 2001-533892	20001006	
				FR 1999-13620	A 19991029	
				WO 2000-FR2789	W 20001006	
OS	MARPAT 134:327285					
IT	2118-02-7, Bis(pentafluorophenyl)hydroxyborane					
	RL: CAT (Catalyst use); USES (Uses)					
	(catalyst for polyimg. and/or crosslinking polyorganosiloxanes with crosslinkable functional groups for coatings)					
RN	2118-02-7 CAPLUS					
CN	Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)					



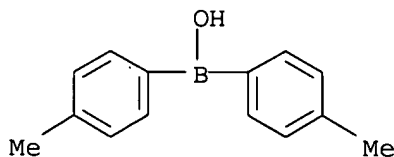
AB The invention relates to a heat-activated catalyst with activation temp. <150.degree. for polyimg. and/or crosslinking polyorganosiloxane-type monomers, oligomers and/or polymers with organofunctional groups, comprising a boron deriv. of formula (I): (A)_xB(R')_y, wherein the symbols R' are the same or different and represent an alkyl or alkenyl radical in C1-C12, an alkoxy radical in C1-C12, a Ph radical substituted by at least one electron attractor element, an aryl radical contg. at least two arom. rings such as biphenyl, naphthyl, optionally substituted by at least one electron attracting group, esp. a halogen atom (particularly fluorine), or an electron attracting group, esp. a CF₃, NO₂, CN group; and a radical -C₂H₄-Si(Q)₃ with the symbols Q being the same or different and representing an alkyl or alkoxy group in C1 to C10 or a siloxane oligomer with less than 10 silicon atoms. The invention also relates to a corresponding crosslinkable compn. and to the uses thereof.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

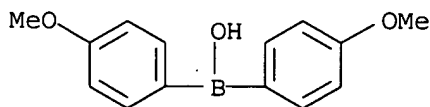
L4 ANSWER 49 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:271432 CAPLUS
DN 135:61370
TI Structural studies of organoboron compounds. LXXIII. Formation of heterocyclic arylboronates by thermally induced 1,4-aryl migration in diarylboron chelates of C-(1-hydroxyalkyl)nitrones. Crystal and molecular structures of some of the rearrangement products and of one of the educts
AU Kliegel, Wolfgang; Lubkowitz, Gottfried; Pokriefke, Jens O.; Rettig, Steven J.; Trotter, James
CS Institut für Pharmazeutische Chemie der Technischen Universität Braunschweig, Braunschweig, 38106, Germany
SO Canadian Journal of Chemistry (2001), 79(2), 226-237
CODEN: CJCHAG; ISSN: 0008-4042
PB National Research Council of Canada
DT Journal
LA English
OS CASREACT 135:61370
IT 13331-25-4, B-(1-Naphthyl)-B-phenylborinic acid 66117-64-4 73774-45-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with hydroxybutanone and benzhydrylhydroxylamine)
RN 13331-25-4 CAPLUS
CN Borinic acid, 1-naphthalenylphenyl- (9CI) (CA INDEX NAME)



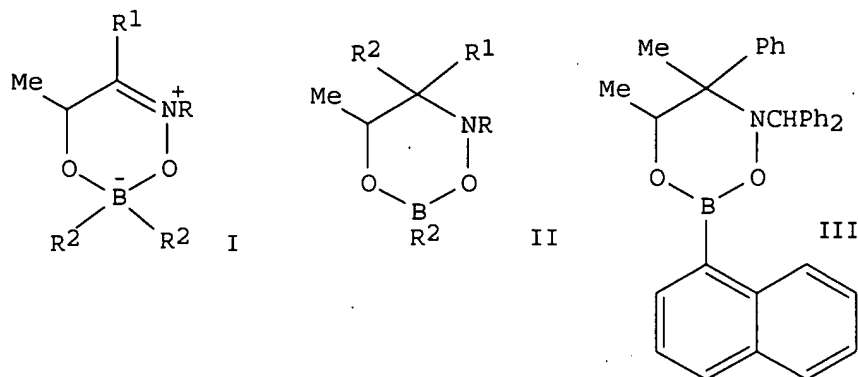
RN 66117-64-4 CAPLUS
CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 73774-45-5 CAPLUS
CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



GI



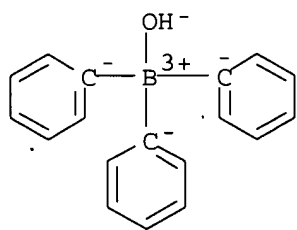
AB Thermally induced rearrangement of diarylboron chelates of C-(1-hydroxyalkyl)nitrones I (R = me, CMe₃, CH₂Ph, CHPh₂, Pr, CHMe₂, cyclohexyl, 4-tolyl; R₁ = H, Me; R₂ = Ph, 4-tolyl, 4-MeOC₆H₄, 4-ClC₆H₄ 1a-n) gave 44-86% heterocyclic arylboronates II (same R-R₂, 2a-n). The structures were detd. from spectroscopic data and from x-ray analyses. Thermoanal. and time-dependent NMR measurements give information on the nature of the enthalpy and kinetics of the isomerization reaction. Crystal data (at 293 K for 2j, 180 K for the others): 1m (R = CHPh₂, R₁ = Me, R₂ = 4-ClC₆H₄), monoclinic, space group P2₁/n, a 14.059(3), b 12.5531(13), c 14.8531(6) .ANG., .beta. 95.8067(12).degree., Z = 4; 2j (R = CHPh₂, R₁ = Me, R₂ = Ph), triclinic, space group P1, a 10.4729(11), b 13.5896(11), c 9.5803(7) .ANG., .alpha. 104.764(6), .beta. 103.279(7), .gamma. 107.278(7).degree., Z = 2; 2m (same R-R₂ as 1m), monoclinic, space group P2₁/n, a 14.9442(13), b 11.990(2), c 16.0613(4) .ANG., .beta. 114.0153(7).degree., Z = 4; 9 (shown as III), monoclinic, P2₁/n, a 11.123(2), b 18.433(3), c 13.4852(4) .ANG., .beta. 108.2075(7).degree., Z = 4. The structures were solved by direct methods and refined by full-matrix least-squares procedures to R(F, I .gtoreq. 3.sigma.(I)) = 0.036, 0.052, 0.043, and 0.040, resp., for AFC6 data for 2j and CCD data for 1m, 2m, and 9. All four mols. contain six-membered OBONCC rings, with an approx. planar ON:CC segment in the educt 1m and approx. planar OBOC segments in the rearrangement products. A probable transition state geometry is derived for the isomerization process.

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 50 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:228311 CAPLUS
DN 134:267814
TI Antifouling coating with trisubstituted borane-amine complex
IN Yamamori, Naoki; Nakamura, Isao; Kushi, Yoshinori; Yokoi, Junji; Arai, Tomokazu
PA Nippon Paint Co., Ltd., Japan
SO Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

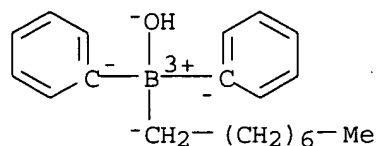
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI EP 1086996 A1 20010328 EP 1999-307477 19990921
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO EP 1999-307477 19990921
 IT 12113-07-4DP, Triphenylborane-sodium hydroxide adduct, reaction
 products with amino-contg. polymer and benzaldehyde 331749-37-2DP
 , Diphenylmonooctylborane-sodium hydroxide adduct, reaction products with
 amino-contg. polymer and/or benzaldehyde
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (antifouling coating with trisubstituted borane-amine complex)
 RN 12113-07-4 CAPLUS
 CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



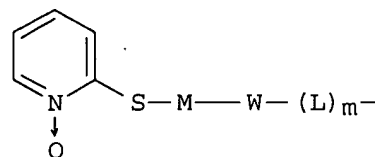
● Na⁺

RN 331749-37-2 CAPLUS
 CN Borate(1-), hydroxyoctyldiphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



● Na⁺

GI



I

AB The present invention is related to a resin for use in an antifouling coating which is a polymer obtained by poly(mg. a polymerizable unsatd. monomer(s) and having, at side chain terminals thereof, a trisubstituted borane-amine complex and an azomethine group, or a group represented by the following general formula I (wherein M=copper, zinc, nickel and cobalt, - means a chem. bound state, W represents -N(R1)R2- (R1, R2=H, C1-4 alkyl group), -OCO-, -OSO2- or substituted pyridine, L=C1-4 alkylene group, m=0-4). Thus, an antifouling coating based on the reaction products of polyallylamine, triphenylborane-sodium hydroxide adduct and benzaldehyde, shows excellent effects over a long period of time.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 51 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:143647 CAPLUS

DN 134:193208

TI Preparation of nitrophenylphenol

IN Kumamoto, Nobumitsu

PA Hokko Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001055360	A2	20010227	JP 1999-294325	19991015
				JP 1998-304423 A	19981026
				JP 1999-159468 A	19990607

OS CASREACT 134:193208; MARPAT 134:193208

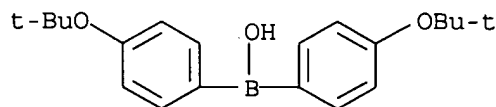
IT **326926-55-0P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of nitrophenylphenol by cross-coupling reaction of nitrohalobenzenes with phenylboronic acids and deprotection)

RN 326926-55-0 CAPLUS

CN Borinic acid, bis[4-(1,1-dimethylethoxy)phenyl]- (9CI) (CA INDEX NAME)



AB HOC6H4C6H4NO2 is prepd. by reaction of NO2C6H4X (X = halo) with (tert-BuOC6H4)3-nB(OH)n (n = 0-2) or tris(tert-butoxyphenyl)boroxin in the presence of bases and catalysts. P-nitroiodobenzene was reacted with tert-butoxyphenylboronic acid in the presence of Pd(OAc)2 and Ba(OH)2 in H2O-THF under reflux for 5 h and treated with H2SO4 in THF at 20-30.degree. for 2 h to give 76% 4-(p-nitrophenyl)phenol.

L4 ANSWER 52 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:91533 CAPLUS

DN 134:141720

TI Boronic acid derivative inhibitors of .beta.-lactamases and antibacterial use.

IN Shoichet, Brian K.; Weston, Grady Scott
 PA Northwestern University, USA
 SO U.S., 30 pp., Cont.-in-part of U.S. 6,075,014.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6184363	B1	20010206	US 1998-212851	19981216
				US 1997-49992P P	19970613
				US 1998-96893 A2	19980612
	US 6075014	A	20000613	US 1998-96893	19980612
				US 1997-49992P P	19970613
	US 6417174	B1	20020709	US 2000-587794	20000606
				US 1997-49992P P	19970613
				US 1998-96893 A3	19980612
	US 6448238	B1	20020910	US 2000-620268	20000719
				US 1997-49992P P	19970613
				US 1998-96893 A2	19980612
				US 1998-212851 A3	19981216

PATENT FAMILY INFORMATION:

FAN 1999:7834

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9856392	A1	19981217	WO 1998-US12096	19980612
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
				US 1997-49992P P	19970613
	AU 9881408	A1	19981230	AU 1998-81408	19980612
				US 1997-49992P P	19970613
				WO 1998-US12096W	19980612
	EP 1009415	A1	20000621	EP 1998-931233	19980612
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
				US 1997-49992P P	19970613
				WO 1998-US12096W	19980612
	JP 2002504122	T2	20020205	JP 1999-503192	19980612
				US 1997-49992P P	19970613
				WO 1998-US12096W	19980612

OS MARPAT 134:141720

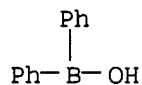
IT 2622-89-1 324024-77-3

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(boronic acid deriv. inhibitors of .beta.-lactamases and antibacterial use)

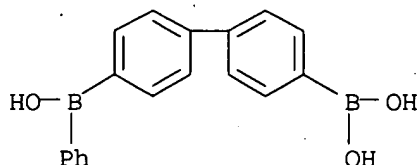
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 324024-77-3 CAPLUS

CN Boronic acid, [4'-(hydroxyphenylboryl)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)



AB The invention provides non- β -lactam boronic acid deriv. inhibitors of β -lactamases. The compds. may be used with β -lactam antibiotics to treat β -lactam-antibiotic-resistant bacterial infections. These compds. are also antibacterial by themselves. Finally, the invention provides a pharmaceutical compn. comprising these compds.

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 53 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:90961 CAPLUS

DN 134:295853

TI Conformational analysis of boron-containing compounds using Gillespie-Kepert version of molecular mechanics

AU Otkidach, D. S.; Pletnev, I. V.

CS Chemistry Department, Lomonosov Moscow State University, Moscow, 119899, Russia

SO THEOCHEM (2001), 536(1), 65-72

CODEN: THEODJ; ISSN: 0166-1280

PB Elsevier Science B.V.

DT Journal

LA English

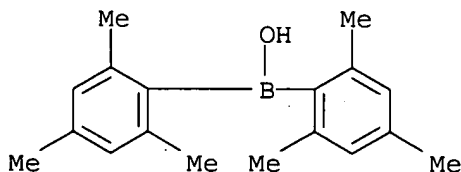
IT 20631-84-9 40905-43-9

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(conformational anal. of boron-contg. compds. using Gillespie-Kepert version of mol. mechanics)

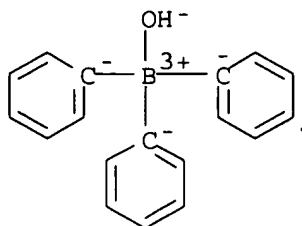
RN 20631-84-9 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



RN 40905-43-9 CAPLUS

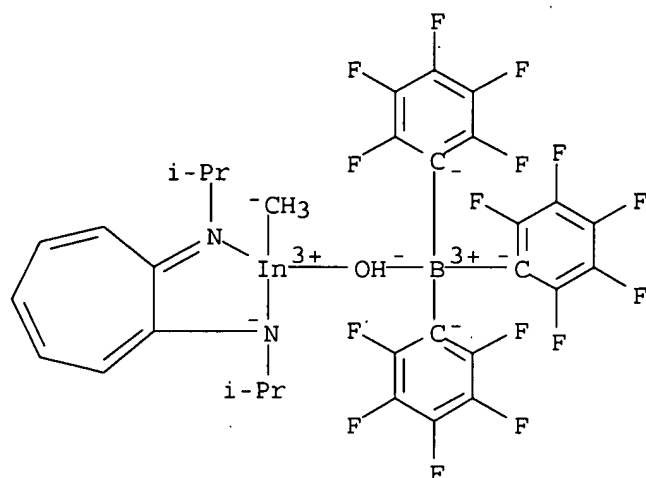
CN Borate(1-), hydroxytriphenyl-, (T-4)- (9CI) (CA INDEX NAME)



AB Mol. mechanics force field for B-contg. compds. based on CHARMM parameters and Gillespie-Kepert (GK) model is developed. GK potential functions are applied to the coordination sphere of three-coordinated (uncharged) or four-coordinated (anionic) B atom. The force field provides an accurate description of exptl. x-ray stereochemistries in a wide range of organoboranes, organoborate complexes with polyhydroxy compds., mixed oligomers of boric acid and borates.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 54 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2001:85386 CAPLUS
DN 134:123802
TI [Hydroxytris(pentafluorophenyl)borato-O] [N-isopropyl-2-(isopropylamino)troponiminato-N,N']methylindium
AU Guzei, Ilia A.; Delpech, Fabien; Jordan, Richard F.
CS Department of Chemistry, Iowa State University of Science and Technology, Ames, IA, 50011, USA
SO Acta Crystallographica, Section C: Crystal Structure Communications (2000), C56(8), E327-E328
CODEN: ACSCEE; ISSN: 0108-2701
PB Munksgaard International Publishers Ltd.
DT Journal
LA English
IT **320585-00-0**, [Hydroxytris(pentafluorophenyl)borato-O] [N-isopropyl-2-(isopropylamino)troponiminato-N,N']methylindium
RL: PRP (Properties)
(crystal structure of)
RN 320585-00-0 CAPLUS
CN Indium, [hydroxytris(pentafluorophenyl)borato(1-)-.kappa.O]methyl [N-(1-methylethyl)-7-[(1-methylethyl)imino-.kappa.N]-1,3,5-cycloheptatrien-1-aminato-.kappa.N]-, (T-4)- (9CI) (CA INDEX NAME)



AB Crystals of the title complex are monoclinic, space group P21/c, with a 19.6683(16), b 18.7739(16), c 19.8049(17) .ANG., .beta. 117.201(1).degree.; Z = 4 (2 mols./Z), dc = 1.761; R = 0.031, Rw(F2) = 0.075 for 13,220 reflections. The complex crystallizes as an ion pair linked by a .mu.-hydroxo bridge. The two independent mols. in the asym. unit exhibit essentially identical metric parameters, but different conformations.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 55 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:64049 CAPLUS

DN 134:132985

TI Triphenylboron-containing polymers and uses thereof in antifouling coatings

IN Yoshimaru, Masaaki; Kohara, Masanori; Shibuya, Yoshifumi

PA Yoshitomi Fine Chemicals, Ltd., Japan

SO PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001005848	A1	20010125	WO 2000-JP4888	20000721
W: CN, JP, KR, NO, SG, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 1999-206799 A 19990721				
JP 2000-76939 A 20000317				
JP 2000-80153 A 20000322				
EP 1227111	A1	20020731	EP 2000-946441	20000721
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
JP 1999-206799 A 19990721				
JP 2000-76939 A 20000317				
JP 2000-80153 A 20000322				
WO 2000-JP4888 W 20000721				

IT 12113-07-4P

Patel

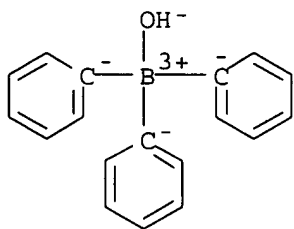
9/24/2003>

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)

(triphenylboron-contg. vinyl polymers for antifouling coatings)

RN 12113-07-4 CAPLUS

CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



● Na⁺

AB Polymers contg. triphenylboron groups are used as active ingredients and binders. Thus, 2-ethylhexyl acrylate-methacrylic acid-Me methacrylate copolymer triphenylboron-ethylenediamine salt was prepd.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 56 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:53481 CAPLUS

DN 134:237539

TI Formation and Unexpected Catalytic Reactivity of Organoaluminum
Boryloxides

AU Gibson, Vernon C.; Mastroianni, Sergio; White, Andrew J. P.; Williams,
David J.

CS Department of Chemistry, Imperial College, London, SW7 2AY, UK

SO Inorganic Chemistry (2001), 40(5), 826-827

CODEN: INOCAJ; ISSN: 0020-1669

PB American Chemical Society

DT Journal

LA English

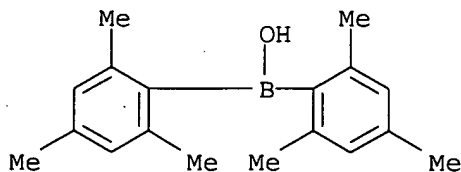
IT 20631-84-9, Dimesitylborinic acid 330157-33-0,
Bis(2,6-dimethylphenyl)borinic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactions with organoaluminum compds. and cyclocondensation catalyzed
by aluminum boryloxo complexes)

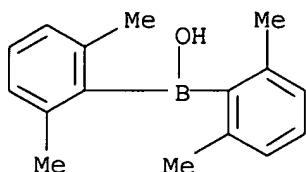
RN 20631-84-9 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



RN 330157-33-0 CAPLUS

CN Borinic acid, bis(2,6-dimethylphenyl)- (9CI) (CA INDEX NAME)



AB Reactions of Me_2AlX ($\text{X} = \text{Me}, \text{Cl}$) with the borinic acids HOBR_2 ($\text{R} = \text{mesityl}$ or 2,6-dimethylphenyl) to give novel organoboryl oxide Al products are reported. An unexpected outcome of these studies was the finding that Al-OR_2 species are capable of catalyzing the formation of boroxine $(\text{RBO})_3$, a trimeric B relative of the hexanuclear aluminoxanes which may be viewed as being composed of two stacked $(\text{RAlO})_3$ rings. The crystal and mol. structures of $[(\mu\text{-R}_2\text{BO})_2(\text{AlMe}_2)_2]$ ($\text{R} = \text{mesityl}$) and $[(\text{R}_2\text{BO})_3\text{Al}(\text{NCMe})]$ were detd. by x-ray crystallog.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 57 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2001:39789 CAPLUS

DN 134:295884

TI Triple-decker main group cations

AU Cowley, Alan H.; Macdonald, Charles L. B.; Silverman, Joel S.; Gorden, John D.; Voigt, Andreas

CS Department of Chemistry and Biochemistry, The University of Texas at Austin, Austin, TX, 78712, USA

SO Chemical Communications (Cambridge) (2001), (2), 175-176

CODEN: CHCOFS; ISSN: 1359-7345

PB Royal Society of Chemistry

DT Journal

LA English

IT 334023-90-4P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and crystal structure of)

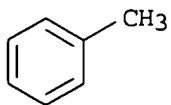
RN 334023-90-4 CAPLUS

CN Indium(1+), bis[(1,2,3,4,5,6-eta.)-methylbenzene][mu.-[(1,2,3,4,5-eta.:1,2,3,4,5-eta.)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]]di-, mu.-hydroxyhexakis(pentafluorophenyl)diborate(1-), compd. with methylbenzene (2:3) (9CI) (CA INDEX NAME)

CM 1

CRN 108-88-3

CMF C7 H8



10085368.2

Page 91

CM 2

CRN 334023-89-1

CMF C36 H B2 F30 O . C24 H31 In2

CM 3

CRN 334023-88-0

CMF C24 H31 In2

CCI CCS

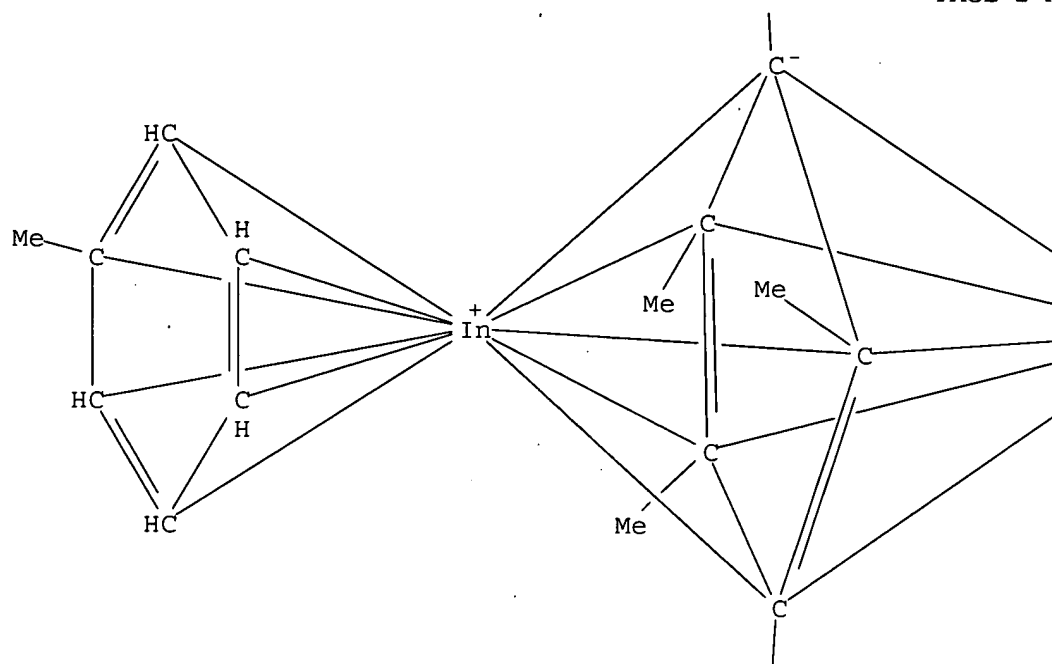
PAGE 1-A

Me
|

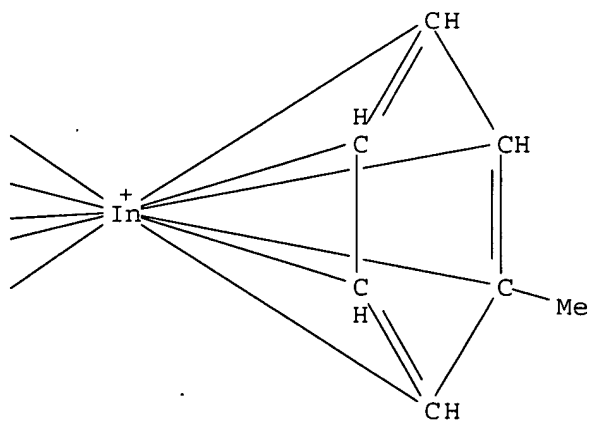
Patel

9/24/2003>

PAGE 2-A



PAGE 2-B



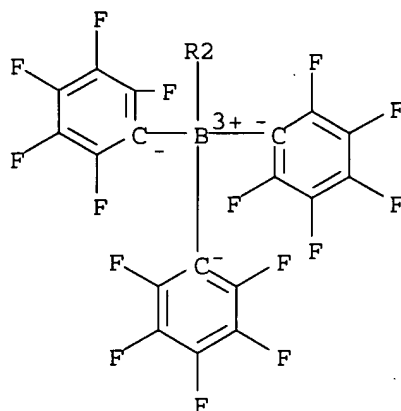
PAGE 3-A



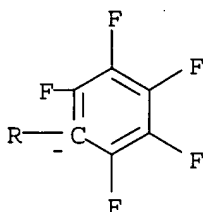
CM 4

CRN 219697-03-7
CMF C36 H B2 F30 O
CCI CCS

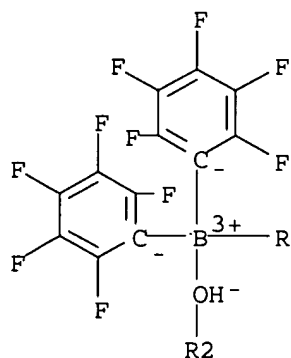
PAGE 1-A



PAGE 2-A



PAGE 3-A



IT 334023-89-1P

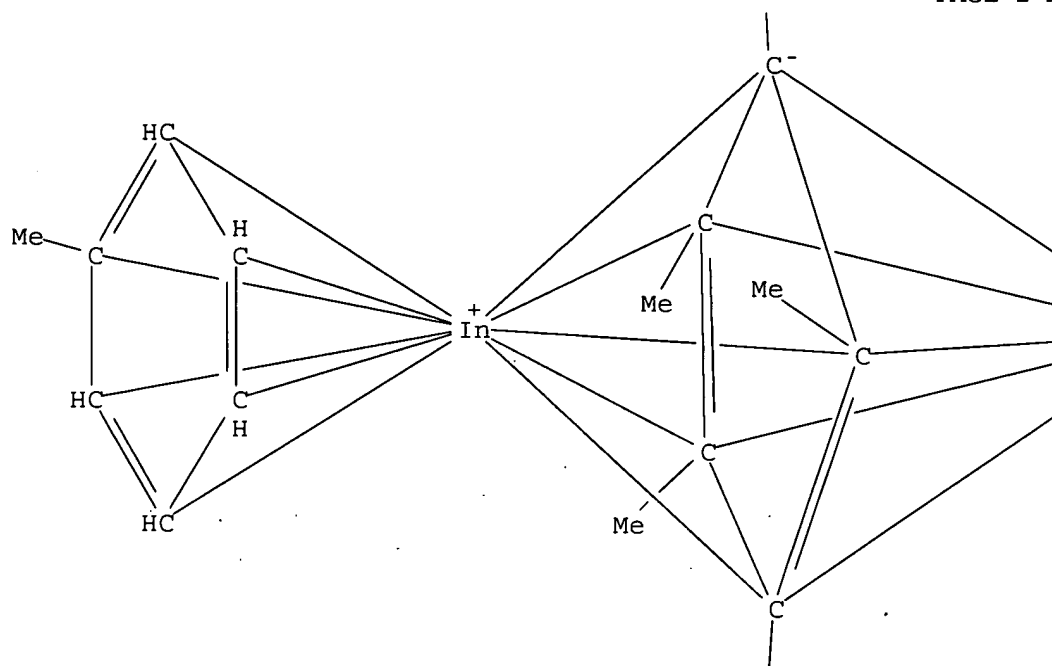
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and mol. structure of)
RN 334023-89-1 CAPLUS
CN Indium(1+), bis[(1,2,3,4,5,6-.eta.)-methylbenzene][.mu.-[(1,2,3,4,5-
.eta.:1,2,3,4,5-.eta.)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]]di-,
.mu.-hydroxyhexakis(pentafluorophenyl)diborate(1-) (9CI) (CA INDEX NAME)
CM 1
CRN 334023-88-0
CMF C24 H31 In2
CCI CCS

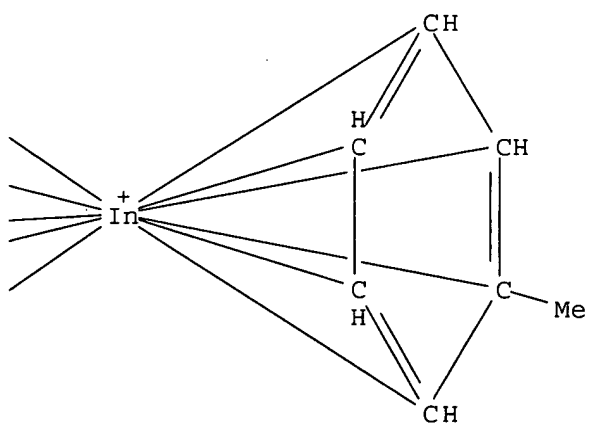
PAGE 1-A

Me
|

PAGE 2-A



PAGE 2-B



PAGE 3-A

|
Me

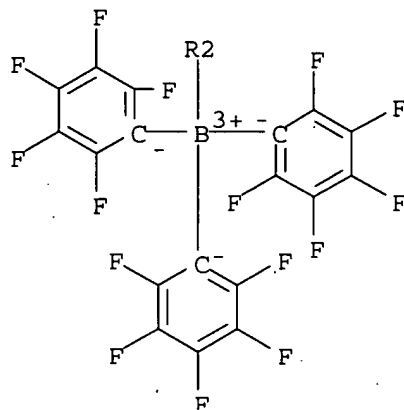
CM 2

CRN 219697-03-7

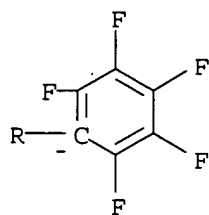
CMF C36 H B2 F30 O

CCI CCS

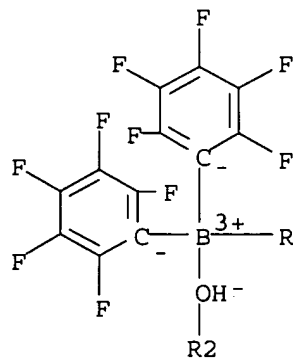
PAGE 1-A



PAGE 2-A



PAGE 3-A

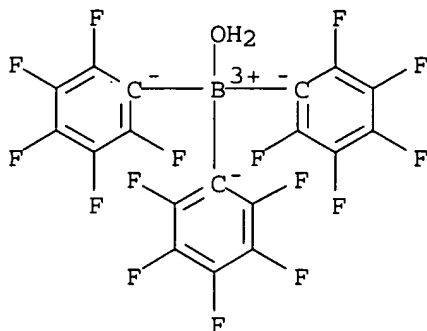


IT 155962-45-1, Aquatris(pentafluorophenyl)boron
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of (pentamethylcyclopentadienyl)indium with
tris(pentafluorophenyl)boron in presence of toluene and)

RN 155962-45-1 CAPLUS

CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



AB The syntheses of the first main group triple-decker cations are described, namely, $[(\eta^5\text{-C}_5\text{Me}_5)\text{Sn}(\mu\text{-}\eta^5\text{-C}_5\text{Me}_5)\text{Sn}(\eta^5\text{-C}_5\text{Me}_5)] [\text{Ga}(\text{C}_6\text{F}_5)_4]$ and $[(\eta^6\text{-C}_7\text{H}_8)\text{In}(\mu\text{-}\eta^5\text{-C}_5\text{Me}_5)\text{In}(\eta^6\text{-C}_7\text{H}_8)] [(\text{C}_6\text{F}_5)_3\text{BO}(\text{H})\text{B}(\text{C}_6\text{F}_5)_3]$, both of which have been characterized by x-ray crystallog.; the former was prepd. by the reaction of $\text{Sn}(\eta^5\text{-C}_5\text{Me}_5)_2$ with $\text{Ga}(\text{C}_6\text{F}_5)_3$, while the latter was prepd. by treatment of $[\text{In}(\eta^5\text{-C}_5\text{Me}_5)]$ with an equimolar mixt. of $\text{B}(\text{C}_6\text{F}_5)_3$ and $\text{H}_2\text{O} \cdot \text{B}(\text{C}_6\text{F}_5)_3$.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 58 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:887820 CAPLUS

DN 134:63915

TI Lithographic printing plate original

IN Oshima, Yasuhito; Sorori, Tadahiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000352824	A2	20001219	JP 1999-165861	19990611
				JP 1999-165861	19990611

OS MARPAT 134:63915

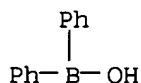
IT 2622-89-1, Diphenylborinic acid

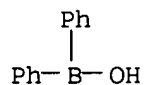
RL: TEM (Technical or engineered material use); USES (Uses)

(lithog. printing plate original with photosensitive layer contg.
organoboronic acids)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



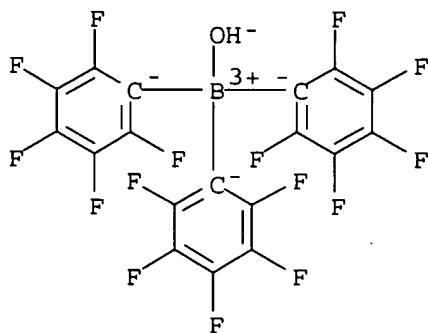


AB A lithog. printing plate comprises a photopolymerizable photosensitive layer contg. a compd. bearing an addn.-polymerizable ethylenic unsatd. bond, a photopolymn. initiator, and a binder polymer and an intermediate layer contg. an organoboronic acid compd. sequentially fabricated on a hydrophilic support. This printing plate original possesses both high adhesiveness between imaged parts and the support and excellent stainability and is suitable for imaging using laser beam, in particular in direct plate-making by computer-to-plate (CTP) technol.

L4 ANSWER 59 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 2000:875857 CAPLUS
 DN 134:178638
 TI .eta.2(3e)-Vinyl Complexes and One-Electron-Transfer Reactions:
 Tris(pentafluorophenyl)borane as a One-Electron Oxidant
 AU Beddows, Claire J.; Burrows, Andrew D.; Connelly, Neil G.; Green, Michael;
 Lynam, Jason M.; Paget, Timothy J.
 CS Department of Chemistry, University of Bath, Bath, BA2 7AY, UK
 SO Organometallics (2001), 20(2), 231-233
 CODEN: ORGND7; ISSN: 0276-7333
 PB American Chemical Society
 DT Journal
 LA English
 IT **326596-18-3P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (one electron transfer/carbonylation reaction of molybdenacyclopropene
 complex to give)
 RN 326596-18-3 CAPLUS
 CN Molybdenum(1+), dicarbonyl(.eta.5-2,4-cyclopentadien-1-yl)bis(trimethyl
 phosphite-.kappa.P)-, stereoisomer, (T-4)-hydroxytris(pentafluorophenyl)bo
 rate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 148657-98-1
 CMF C18 H B F15 O
 CCI CCS

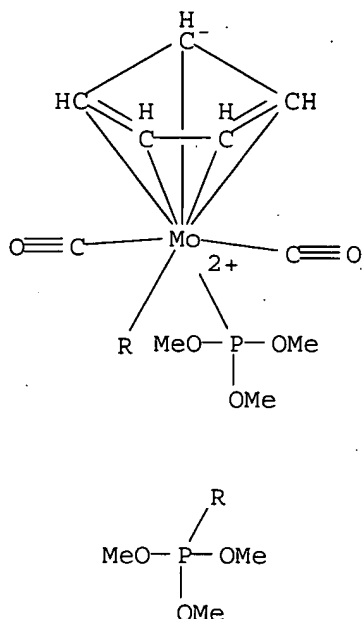


CM 2

CRN 135214-22-1

CMF C13 H23 Mo O8 P2

CCI CCS



AB The $\eta^2(3e)$ -vinyl complex $[\text{Mo}\{\text{:C(Ph)CHPh}\}\{\text{P(OMe)}_3\}_2\text{Cp}]$ is oxidized by $[\text{FeCp}_2]^+$, $[\text{CPh}_3]^+$, or $\text{B(C}_6\text{F}_5)_3$ to form the 17-electron cation $[\text{Mo}\{\text{:C(Ph)CHPh}\}\{\text{P(OMe)}_3\}_2\text{Cp}]^+$, which on warming loses H to form the cationic $\eta^2(4e)$ -alkyne complex $[\text{Mo}(\eta^2\text{-PhC}\cdot\text{tPlbond}\cdot\text{CPh})\{\text{P(OMe)}_3\}_2\text{Cp}]^+$. In the case of the borane there is evidence for a competing reaction between the η^2 -vinyl complex and the acid $(\text{H}_2\text{O})\text{B(C}_6\text{F}_5)_3$, giving a labile trans-stilbene complex.

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 60 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:809459 CAPLUS

DN 134:115987

TI Structural studies of organoboron compounds LXXII. Nitrones and oximes of bifunctional carbonyl compounds and their reaction products with diarylborinic acids. Crystal and molecular structure of examples of five-, six-, and seven-membered boron chelates

AU Kliegel, Wolfgang; Lubkowitz, Gottfried; Pokriefke, Jens O.; Rettig, Steven J.; Trotter, James

CS Institut für Pharmazeutische Chemie der Technischen Universität Braunschweig, Braunschweig, 38106, Germany

SO Canadian Journal of Chemistry (2000), 78(10), 1325-1344
CODEN: CJCHAG; ISSN: 0008-4042

PB National Research Council of Canada

DT Journal

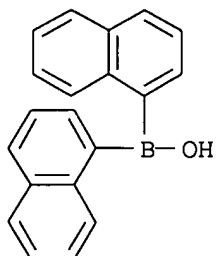
LA English

IT 62981-91-3 89566-59-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of carbonyl compd. nitrones and oximes with diarylborinic acids)

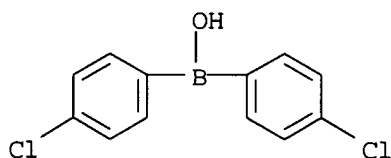
RN 62981-91-3 CAPLUS

CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



RN 89566-59-6 CAPLUS

CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)

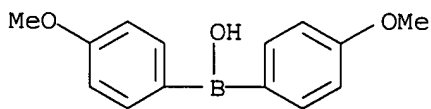


IT 73774-45-5P

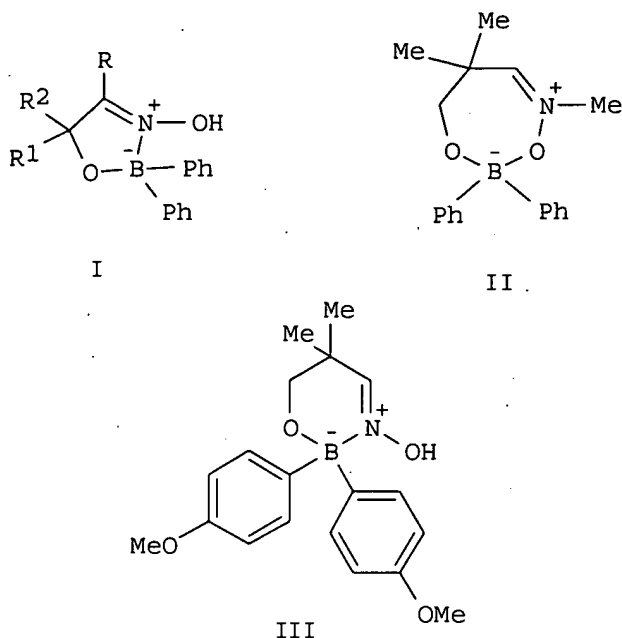
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(reaction of carbonyl compd. nitrones and oximes with diarylborinic acids)

RN 73774-45-5 CAPLUS

CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



GI

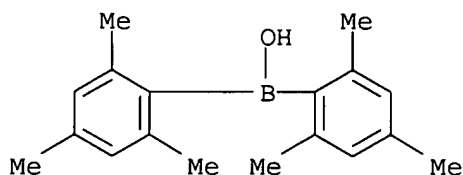


AB Synthesis has been carried out of diarylboron chelates of 2- and 3-hydroxynitrones, of 2- and 3-hydroxyoximes, and of 2-carboxynitrones and a 2-carboxyoxime. The structures have been detd. from spectroscopic data and from x-ray analyses of boron chelates I (5d, R = Me₃C, R₁ = H, R₂ = Me), II, III, and I (19, R = Ph, R₁R₂ = O). Crystals (at 180 K) of 5d are monoclinic, a = 10.543(2), b = 19.085(4), c = 10.2667(3) .ANG., .beta. = 90.4978(7).degree., Z = 4, space group P21/c; those of II are orthorhombic, a = 10.9913(5), b = 14.9329(7), c = 10.2460(13) .ANG., Z = 4, space group P212121; those of III are monoclinic, a = 11.227(2), b = 9.967(2), c = 17.0537(4) .ANG., .beta. = 105.4179(5).degree., Z = 4, space group P21/n; those of 19 are monoclinic, a = 11.1847(15), b = 13.715(3), c = 11.5559(5) .ANG., .beta. = 104.8730(10).degree., Z = 4, space group P21/n. The structures were solved by direct methods and refined by full-matrix least-squares procedures to R(F, I .gtoreq. 3.sigma.(I)) = 0.049, 0.047, 0.042, and 0.047, resp., for CCD data for 5d, II, III, and 19. The four mols. contain five-, seven-, six-, and five-membered rings, resp., with O-B-N groups in the 5d, III, and 19, and O-B-O in II; the rings exhibit various deviations from planarity, particularly the seven-membered ring.

RE.CNT 77 THERE ARE 77 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 61 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:808127 CAPLUS
DN 134:115992
TI Diverse Reactivity of Dialkylaluminum Dimesitylboryloxides
[$(\mu\text{-Mes}_2\text{BO})\text{AlR}_2$]₂. Synthetic and Structural Study
AU Anulewicz-Ostrowska, Romana; Lulinski, Sergiusz; Serwatowski, Janusz;
Suwinska, Kinga
CS Faculty of Chemistry, University of Warsaw, Warsaw, 02-093, Pol.
SO Inorganic Chemistry (2000), 39(25), 5763-5767
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society

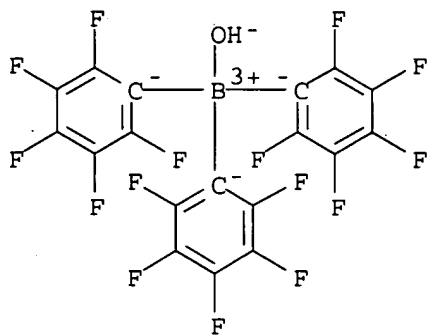
DT Journal
LA English
OS CASREACT 134:115992
IT **20631-84-9**, Dimesitylborinic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalytic decompn. and reaction with trialkylaluminums)
RN 20631-84-9 CAPLUS
CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB Several stable dimeric dialkylaluminum boryloxides of the formula $[(\mu\text{-Mes}_2\text{BO})\text{AlR}_2]_2$ (R = Me (1), Et (2), iBu) have been prepd. from dimesitylborinic acid Mes₂BOH and trialkylaluminums R₃Al. Compd. 1 has been characterized by x-ray diffraction. These compds. exhibit diverse reactivity toward protonolytic reagents depending on the bulkiness of these reagents. Treatment of 1 with tert-Bu alc. afforded cryst. species trans- $[(\mu\text{-tBuO})(\text{Mes}_2\text{BO})\text{AlMe}]_2$ (3), which is the first example of a mixed system contg. boryloxide and alkoxide ligands together. Most surprisingly, Mes₂BOH was found to undergo catalytic decompn. in the presence of $[(\mu\text{-Mes}_2\text{BO})\text{AlR}_2]_2$ via the unexpected cleavage of one boron-carbon bond. The mol. structure of the decompn. product, i.e., trimesitylboryloxin [MesBO]₃ (4) is reported.

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 62 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:734616 CAPLUS
DN 134:42174
TI Aqua, Alcohol, and Acetonitrile Adducts of Tris(perfluorophenyl)borane: Evaluation of Bronsted Acidity and Ligand Lability with Experimental and Computational Methods
AU Bergquist, Catherine; Bridgewater, Brian M.; Harlan, C. Jeff; Norton, Jack R.; Friesner, Richard A.; Parkin, Gerard
CS Department of Chemistry, Columbia University, New York, NY, 10027, USA
SO Journal of the American Chemical Society (2000), 122(43), 10581-10590
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
IT **148657-98-1**
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)
(aqua, alc., and acetonitrile adducts of tris(perfluorophenyl)borane and evaluation of Bronsted acidity and ligand lability with exptl. and computational methods)
RN 148657-98-1 CAPLUS
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



IT 312640-07-6 312640-08-7

RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)

(aqua, alc., and acetonitrile adducts of tris(perfluorophenyl)borane and evaluation of Bronsted acidity and ligand lability with exptl. and computational methods)

RN 312640-07-6 CAPLUS

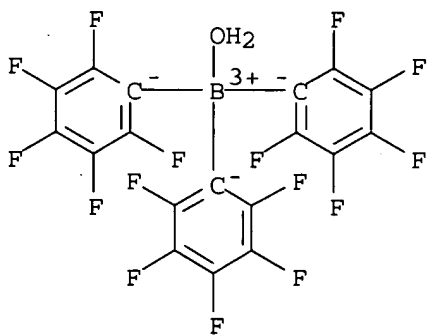
CN Boron, aquatris(pentafluorophenyl)-, (T-4)-, compd. with acetonitrile (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 155962-45-1

CMF C18 H2 B F15 O

CCI CCS



CM 2

CRN 75-05-8

CMF C2 H3 N

H₃C-C≡N

RN 312640-08-7 CAPLUS

CN Boron, aquatris(pentafluorophenyl)-, (T-4)-, compd. with acetonitrile (1:1), monohydrate (9CI) (CA INDEX NAME)

Patel

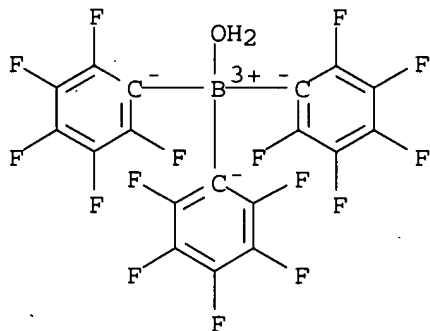
9/24/2003>

CM 1

CRN 155962-45-1

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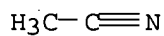
CCI CCS



CM 2

CRN 75-05-8

CMF C2 H3 N



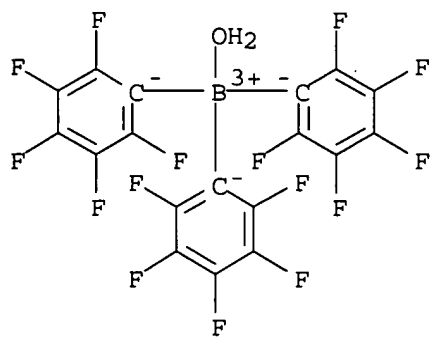
IT 155962-44-0 155962-46-2 312640-05-4
312640-06-5

RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)

(mol. structure calcn.; aqua, alc., and acetonitrile adducts of tris(perfluorophenyl)borane and evaluation of Bronsted acidity and ligand lability with exptl. and computational methods)

RN 155962-44-0 CAPLUS

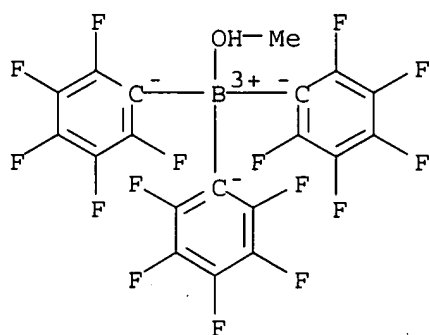
CN Boron, aquatris(pentafluorophenyl)-, dihydrate, (T-4)- (9CI) (CA INDEX NAME)



● 2 H₂O

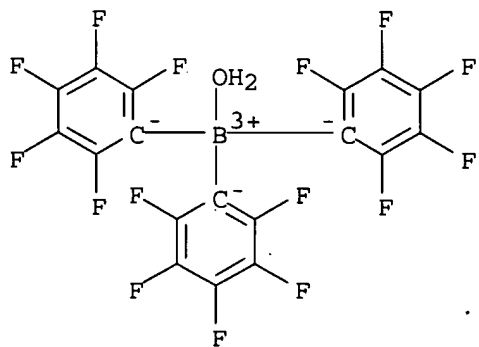
RN 155962-46-2 CAPLUS

CN Boron, (methanol)tris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



RN 312640-05-4 CAPLUS

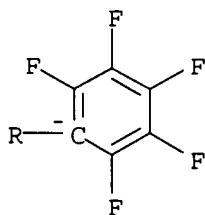
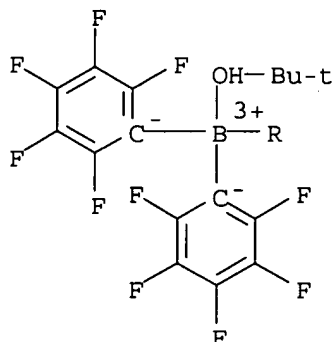
CN Boron, aquatris(pentafluorophenyl)-, monohydrate, (T-4)- (9CI) (CA INDEX NAME)



H₂O

RN 312640-06-5 CAPLUS

CN Boron, (2-methyl-2-propanol)tris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)

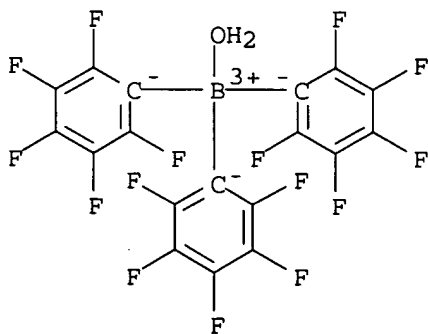


IT 155962-45-1P 155962-47-3P 312640-04-3P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (prepn. and crystal and mol. structure of)

RN 155962-45-1 CAPLUS

CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



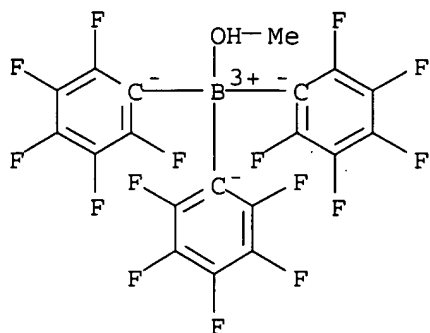
RN 155962-47-3 CAPLUS

CN Boron, (methanol)tris(pentafluorophenyl)-, (T-4)-, compd. with methanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 155962-46-2

CMF C19 H4 B F15 O
CCI CCS



CM 2

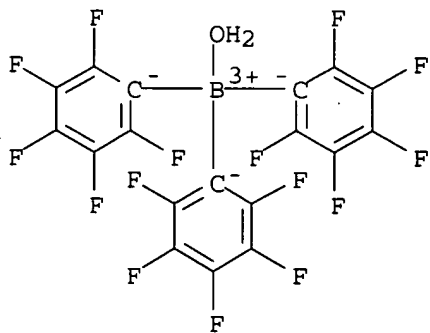
CRN 67-56-1
CMF C H4 O

H₃C-OH

RN 312640-04-3 CAPLUS
CN Boron, aquatris(pentafluorophenyl)-, (T-4)-, compd. with
2-methyl-2-propanol (1:1) (9CI) (CA INDEX NAME)

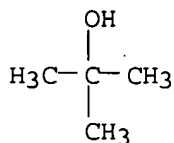
CM 1

CRN 155962-45-1
CMF C18 H2 B F15 O
CCI CCS



CM 2

CRN 75-65-0
CMF C4 H10 O



IT 312640-09-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 312640-09-8 CAPLUS

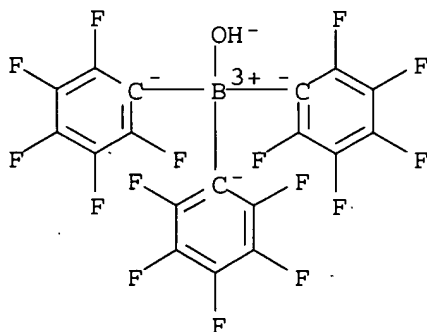
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with
N,N,N',N'-tetramethyl-1,8-naphthalenediamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 147892-17-9

CMF C18 H B F15 O . H

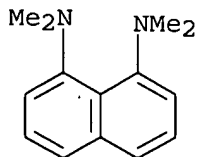
CCI CCS

● H⁺

CM 2

CRN 20734-58-1

CMF C14 H18 N2

AB Equil. studies have been performed to det. the Bronsted acidity of
[(C6F5)3B(OH2)].H2O, the aqua species that exists in acetonitrile solns.

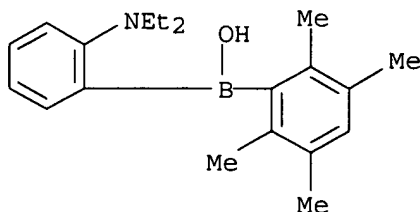
Patel

9/24/2003>

of $B(C_6F_5)_3$ in the presence of water. NMR spectroscopic anal. of the deprotonation of $[(C_6F_5)_3B(OH_2)] \cdot H_2O$ with 2,6-But₂C₅H₃N in acetonitrile allows a pK value of 8.6 to be detd. for the equil. $[(C_6F_5)_3B(OH_2)] \cdot H_2O \rightleftharpoons [(C_6F_5)_3B(OH)]^- + [H_3O]^+$. On the basis of a calcd. value for the hydrogen bond interaction in $[(C_6F_5)_3B(OH_2)] \cdot H_2O$, the pK_a for $(C_6F_5)_3B(OH_2)$ is estd. to be 8.4 in acetonitrile. Such a value indicates that $(C_6F_5)_3B(OH_2)$ must be regarded as a strong acid, with a strength comparable to that of HCl in acetonitrile. Dynamic NMR spectroscopic studies indicate that the aqua and acetonitrile ligands in $(C_6F_5)_3B(OH_2)$ and $(C_6F_5)_3B(NCMe)$ are labile, with dissoch. of H_2O being substantially more facile than that of MeCN, by a factor of ca. 200 in rate const. at 300 K. Ab initio calcns. were performed in the gas phase and with a dielec. solvent model to det. the strength of B-L bonds (L = H_2O , ROH, MeCN) and hydrogen bonds involving B-OH₂ and B-O(H)R derivs.

RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 63 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:732648 CAPLUS
DN 134:43364
TI Synthesis and properties of fluorescent organoboranes: triarylmethane-type dyes
AU Albrecht, Karsten; Kaiser, Volker; Boese, Roland; Adams, Jorg; Kaufmann, Dieter E.
CS Institut fur Organische Chemie, Technische Universitat Clausthal, Clausthal-Zellerfeld, 38678, Germany
SO Perkin 2 (2000), (10), 2153-2157
CODEN: PRKTFO; ISSN: 1470-1820
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 134:43364
IT 313220-06-3P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dye; synthesis and properties of fluorescent organoborane triarylmethane-type dyes)
RN 313220-06-3 CAPLUS
CN Borinic acid, [2-(diethylamino)phenyl](2,3,5,6-tetramethylphenyl)- (9CI)
(CA INDEX NAME)



AB The syntheses and photochem. properties of the novel aminoaryldiarylboranes which are isoelectronic with triarylmethane dyes, and also pyrrolyl- and indolyldiarylboranes, are described. The fluorescence spectra are strongly dependent on the solvent. The use of o-disubstituted arenes as stabilizing substituents at the boron atom leads to highly colored solids which are stable to air and moisture. The

structures of two of the triarylboranes were confirmed by X-ray analyses.
 RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 64 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:441802 CAPLUS

DN 133:74149

TI Method for producing mono- or di-organoboranes

IN Schottek, Jorg; Becker, Patricia; Kullmer, Iris

PA Targor G.m.b.H., Germany

SO PCT Int. Appl., 19 pp.

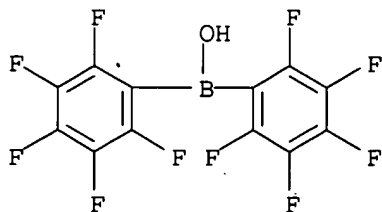
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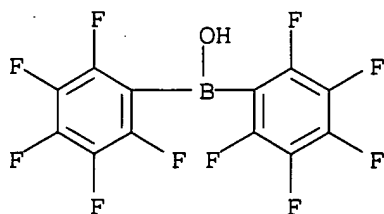
DT Patent

LA German

FAN.CNT 1

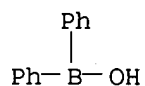
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WO 2000037476	A1	20000629	WO 1999-EP10032	19991217
W: BR, CN, JP, NO, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
BR 9916382	A	20010911	DE 1998-19858829A	19981219
			BR 1999-16382	19991217
			DE 1998-19858829A	19981219
			WO 1999-EP10032W	19991217
EP 1140947	A1	20011010	EP 1999-963568	19991217
EP 1140947	B1	20030312		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
			DE 1998-19858829A	19981219
			WO 1999-EP10032W	19991217
JP 2002533349	T2	20021008	JP 2000-589546	19991217
			DE 1998-19858829A	19981219
			WO 1999-EP10032W	19991217
US 6600066	B1	20030729	US 2001-868074	20010614
			DE 1998-19858829A	19981219
			WO 1999-EP10032W	19991217
NO 2001003021	A	20010809	NO 2001-3021	20010618
			DE 1998-19858829A	19981219
			WO 1999-EP10032W	19991217
OS	CASREACT 133:74149; MARPAT 133:74149			
IT	2118-02-7P, Hydroxybis(pentafluorophenyl)borane 2622-89-1P			
	73774-44-4P 73774-45-5P 89566-59-6P			
	211636-23-6P 279216-30-7P 279216-31-8P			
	RL: SPN (Synthetic preparation); PREP (Preparation)			
	(prepn. of)			
RN	2118-02-7 CAPLUS			
CN	Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)			





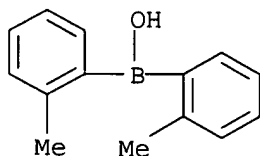
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



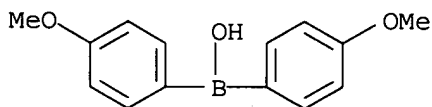
RN 73774-44-4 CAPLUS

CN Borinic acid, bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



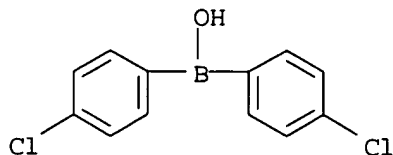
RN 73774-45-5 CAPLUS

CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



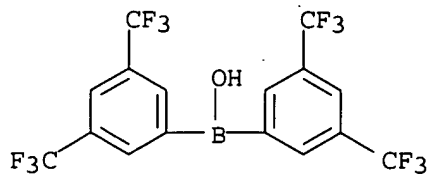
RN 89566-59-6 CAPLUS

CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)

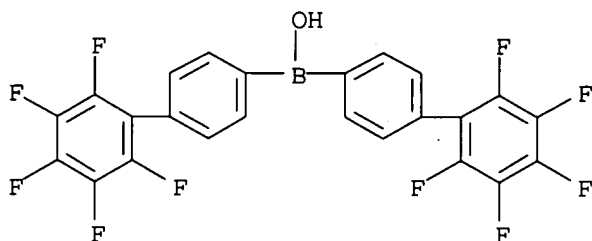


RN 211636-23-6 CAPLUS

CN Borinic acid, bis[3,5-bis(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

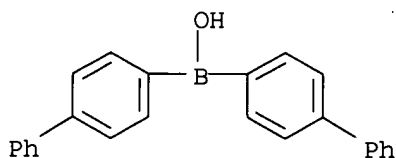


RN 279216-30-7 CAPLUS

CN Borinic acid, bis(2',3',4',5',6'-pentafluoro[1,1'-biphenyl]-4-yl)- (9CI)
(CA INDEX NAME)

RN 279216-31-8 CAPLUS

CN Borinic acid, bis([1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



AB The invention relates to a novel method for producing perhalogenated mono-organoboranes or di-organoboranes which makes it possible to obtain these compds. under conditions which can be carried out in a tech. favorable manner. Thus, reaction of tris(pentafluorophenyl)borane with H₂O in toluene gave 89% bis(pentafluorophenyl)hydroxyborane.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 65 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:401797 CAPLUS

DN 133:43531

TI Process for preparing pyridazin-3-one derivatives

IN Yanagawa, Masao; Mizuno, Masahiko; Oda, Yoshiaki

PA Sumitomo Chemical Company, Limited, Japan

SO PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000034249	A1	20000615	WO 1999-JP6842	19991207

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

JP 1998-350274 A 19981209
 JP 1999-172464 A 19990618
 JP 1999-172464 19990618
 JP 1998-350274 A 19981209
 AU 2000-15128 19991207
 JP 1998-350274 A 19981209
 JP 1999-172464 A 19990618
 WO 1999-JP6842 W 19991207
 BR 9916028 A 20010828
 BR 1999-16028 19991207
 JP 1998-350274 A 19981209
 JP 1999-172464 A 19990618
 WO 1999-JP6842 W 19991207
 EP 1137641 A1 20011004
 EP 1999-957420 19991207
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 JP 1998-350274 A 19981209
 JP 1999-172464 A 19990618
 WO 1999-JP6842 W 19991207
 US 6500951 B1 20021231
 US 2001-857033 20010628
 JP 1998-350274 A 19981209
 JP 1999-172464 A 19990618
 WO 1999-JP6842 W 19991207

OS MARPAT 133:43531

IT 2622-89-1, Diphenylborinic acid

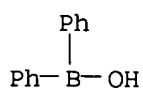
RL: RCT (Reactant); RACT (Reactant or reagent)

(cyclization of 3-carboxy-2-hydroxy-2-(trifluoromethyl)butanal

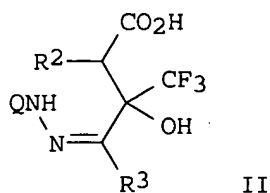
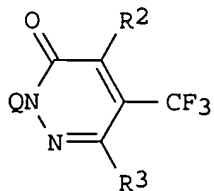
(4-chloro-2-fluoro-5-hydroxyphenyl)hydrazone in presence of)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



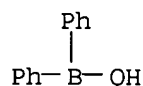
GI



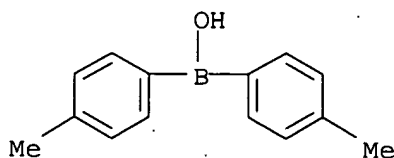
AB Pyridazin-3-ones [I; R2 = H, C1-C3 alkyl; R3 = H, C1-C3 alkyl; Q = (un)substituted phenyl] are prepd. by cyclization of a carboxylic acid deriv. (II; same R2, R3, Q) in the presence of a nitrogen-contg. arom. compd. and a boron compd. Thus, 5.62 g II (R2 = Me, R3 = H, Q = 4-chloro-2-fluoro-5-hydroxyphenyl), 0.38 g phenylboric acid, 2.70 g mol. sieve 4A, and 2.82 g 5-ethyl-2-methylpyridine were stirred at 110-115.degree. for 10 h to give a 91.2% yield of I (R2 = Me, R3 = H, Q = 4-chloro-2-fluoro-5-hydroxyphenyl).

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

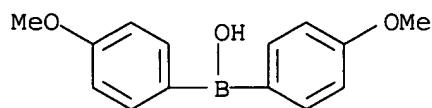
L4 ANSWER 66 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:253333 CAPLUS
DN 133:58910
TI Para-Substituted diphenylborylated organocobaloximes: effects of substituents on conformation and redox properties
AU Asaro, Fioretta; Dreos, Renata; Nardin, Giorgio; Pellizer, Giorgio; Peressini, Silvia; Randaccio, Lucio; Siega, Patrizia; Tauzher, Giovanni; Tavagnacco, Claudio
CS Dipartimento di Scienze Chimiche, Universita Degli Studi di Trieste, Trieste, I-34127, Italy
SO Journal of Organometallic Chemistry (2000), 601(1), 114-125
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
OS CASREACT 133:58910
IT 2622-89-1 66117-64-4 73774-45-5
89566-59-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions with cobaloximes)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 66117-64-4 CAPLUS
CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

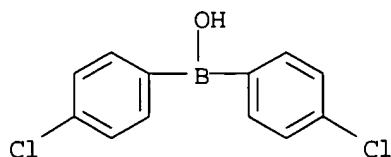


RN 73774-45-5 CAPLUS
CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

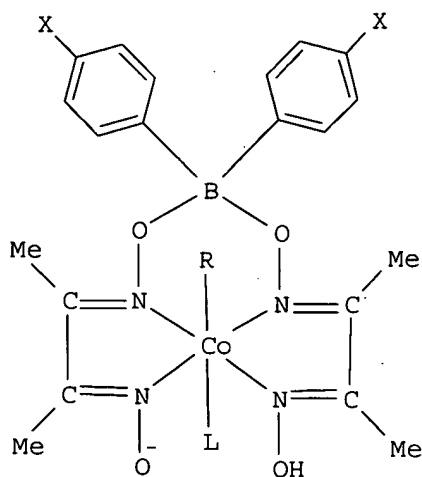


RN 89566-59-6 CAPLUS

CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)



GI



I

AB Some new derivs. of organocobaloximes contg. para-substituted diphenylboryl groups, $\text{RCo}(\text{DH})_2\text{-n}(\text{DB}(\text{p-XPh})_2)_n\text{L}$ (R = alkyl or aryl group, L = N-MeIm , Py or H_2O , X = OCH_3 , CH_3 or Cl , n = 1 or 2) (shown as I for n = 1) were synthesized. The x-ray structures and the $^1\text{H-NMR}$ spectra are compared with those of the corresponding $\text{RCo}(\text{DH})_2\text{-n}(\text{DBPh}_2)_n\text{L}$ and $\text{RCo}(\text{DBF}_2)_2\text{L}$ complexes. The insertion of X groups in the Ph rings does not significantly affect the equatorial Co-N distances, whereas the Co-Py distances increase slightly in the order $(\text{DB}(\text{p-OCH}_3\text{Ph})_2)_2 < (\text{DB}(\text{p-ClPh})_2)_2 < (\text{DBF}_2)_2$. $^1\text{H-NMR}$ spectra suggest that the conformational distribution in soln. is similar to that obsd. in the corresponding BPh_2 derivs. Electrochem. studies on the corresponding $\text{MeCo}(\text{DB}(\text{p-XPh})_2)_2\text{H}_2\text{O}$ compds. show a mono-electron Co(III)/Co(II) transfer reaction followed by two parallel reactions: (a) mono-electron Co(II)/Co(I) transfer; (b)

homolytic dissocn. of the Co-C bond with the formation of Co(I) species, the relative rates of the two processes being dependent on X. As the electron-withdrawing power of the equatorial ligand increases, the redn. potentials assocd. with both Co(III)/Co(II) and Co(II)/Co(I) processes shift toward pos. values, indicating a decrease of electron d. on the Co atom. The effects are comparable with those obsd. by changing the axial ligands.

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 67 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:241304 CAPLUS
DN 132:279652
TI Catalysts for the polymerization of olefins
IN Schottek, Jorg; Fritze, Cornelia; Bohnen, Hans; Becker, Patricia
PA Targor GmbH, Germany
SO PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DT Patent
LA German

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000020466	A1	20000413	WO 1999-EP7087	19990923
	W: JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

DE 1998-19845240A 19981001
DE 1999-19903306A 19990128
DE 1998-19845240 19981001
DE 1999-19903306 19990128

PATENT FAMILY INFORMATION:

FAN 2000:227941

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19845240	A1	20000406	DE 1998-19845240	19981001
	WO 2000020466	A1	20000413	WO 1999-EP7087	19990923
	W: JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

DE 1998-19845240A 19981001
DE 1999-19903306A 19990128

FAN 2000:396574

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19857377	A1	20000615	DE 1998-19857377	19981212
	WO 2000035973	A1	20000622	WO 1999-EP9682	19991209
	W: BR, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

DE 1998-19857377A 19981212
DE 1999-19903306A 19990128
EP 1999-962247 19991209

EP 1054914 A1 20001129

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

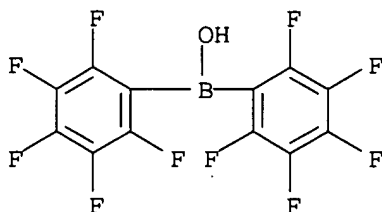
DE 1998-19857377A 19981212
DE 1999-19903306A 19990128
WO 1999-EP9682 W 19991209

JP 2002532584	T2	20021002	JP 2000-588228	19991209
			DE 1998-19857377A	19981212
			DE 1999-19903306A	19990128
			WO 1999-EP9682 W	19991209
US 6486277	B1	20021126	US 2000-622205	20000814
			DE 1998-19857377A	19981212
			DE 1999-19903306A	19990128
			WO 1999-EP9682 W	19991209
FAN 2000:421191				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2000035973	A1	20000622	WO 1999-EP9682	19991209
W: BR, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
			DE 1998-19857377A	19981212
			DE 1999-19903306A	19990128
DE 19857377	A1	20000615	DE 1998-19857377	19981212
DE 19903306	A1	20000803	DE 1999-19903306	19990128
EP 1054914	A1	20001129	EP 1999-962247	19991209
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			DE 1999-19903306A	19990128
			WO 1999-EP9682 W	19991209
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			DE 1998-19857377A	19981212
			DE 1999-19903306A	19990128
			WO 1999-EP9682 W	19991209
US 6486277	B1	20021126	US 2000-622205	20000814
			DE 1998-19857377A	19981212
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			WO 1999-EP9682 W	19991209
FAN 2000:535190				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2000044799	A1	20000803	WO 2000-EP471	20000122
W: BR, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
			DE 1999-19903306A	19990128
DE 19903306	A1	20000803	DE 1999-19903306	19990128
BR 2000004493	A	20001219	BR 2000-4493	20000122
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			WO 2000-EP471 W	20000122
EP 1082363	A1	20010314	EP 2000-910601	20000122
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			DE 1999-19903306A	19990128
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JP 2002535416	T2	20021022	JP 2000-596054	20000122
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			WO 2000-EP471 W	20000122
US 6469114	B1	20021022	US 2000-646176	20000914
			DE 1999-19903306A	19990128
			WO 2000-EP471 W	20000122
OS MARPAT 132:279652				
IT 2118-02-7, Bis(pentafluorophenyl)borinic acid				

RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydration)

RN 2118-02-7 CAPLUS

CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB The title catalysts, having high activity and giving polymers with good morphol., contain metallocenes, Lewis bases of specified structure based on Group VA elements (esp. N or P), supports, and org. B or Al compds. of specified structure. Heating (C₆F₅)₂BOH at 100.degree. in vacuo for 8 h gave 92% corresponding anhydride which was mixed (20.8 mmol) with 20.8 mmol PhNMe₂ and 14.0 g SiO₂ in PhMe and dried in vacuo to give a cocatalyst. Mixing the cocatalyst (996 mg) with 5 mg [(dimethylsilylene)bis(2-methyl-4-phenylindenyl)]zirconium dichloride and 70 .mu.mol Me₃Al in PhMe and drying in vacuo gave 1.001 g free-flowing, powd. catalyst. Heating 1 g catalyst with 0.5 mL 20% iso-Bu₃Al and 10 dm³ liq. C₃H₆ at 60.degree. for 1 h gave 485 g polypropylene (97 kg/g metallocene-h).

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 68 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:227941 CAPLUS

DN 132:251567

TI Metallocene-based olefin polymerization catalyst systems and their use

IN Schottek, Joerg; Fritze, Cornelia; Bohnen, Hans; Becker, Patricia

PA Aventis Research & Technologies G.m.b.H. & Co. K.-G., Germany

SO Ger. Offen., 11 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19845240	A1	20000406	DE 1998-19845240	19981001
	WO 2000020466	A1	20000413	WO 1999-EP7087	19990923
	W: JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

DE 1998-19845240A 19981001

DE 1999-19903306A 19990128

PATENT FAMILY INFORMATION:

FAN 2000:241304

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PI	WO 2000020466	A1	20000413	WO 1999-EP7087	19990923
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	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				

PT, SE

	DE 19845240	A1	20000406	DE 1998-19845240A	19981001
	DE 19903306	A1	20000803	DE 1999-19903306A	19990128
FAN	2000:396574			DE 1998-19845240	19981001
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PI	DE 19857377	A1	20000615	DE 1998-19857377	19981212
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	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
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				DE 1999-19903306A	19990128
EP	1054914	A1	20001129	EP 1999-962247	19991209
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				DE 1998-19857377A	19981212
				DE 1999-19903306A	19990128
JP	2002532584	T2	20021002	WO 1999-EP9682 W	19991209
				JP 2000-588228	19991209
				DE 1998-19857377A	19981212
				DE 1999-19903306A	19990128
US	6486277	B1	20021126	WO 1999-EP9682 W	19991209
				US 2000-622205	20000814
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				DE 1999-19903306A	19990128
				WO 1999-EP9682 W	19991209
FAN	2000:421191				
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2000035973	A1	20000622	WO 1999-EP9682	19991209
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	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
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				DE 1999-19903306A	19990128
DE	19857377	A1	20000615	DE 1998-19857377	19981212
DE	19903306	A1	20000803	DE 1999-19903306	19990128
EP	1054914	A1	20001129	EP 1999-962247	19991209
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
				DE 1998-19857377A	19981212
				DE 1999-19903306A	19990128
JP	2002532584	T2	20021002	WO 1999-EP9682 W	19991209
				JP 2000-588228	19991209
				DE 1998-19857377A	19981212
				DE 1999-19903306A	19990128
US	6486277	B1	20021126	WO 1999-EP9682 W	19991209
				US 2000-622205	20000814
				DE 1998-19857377A	19981212
				DE 1999-19903306A	19990128
				WO 1999-EP9682 W	19991209
FAN	2000:535190				
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2000044799	A1	20000803	WO 2000-EP471	20000122

W: BR, JP, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

DE 19903306	A1	20000803	DE 1999-19903306A 19990128
BR 2000004493	A	20001219	DE 1999-19903306 19990128
			BR 2000-4493 20000122
			DE 1999-19903306A 19990128
			WO 2000-EP471 W 20000122
EP 1082363	A1	20010314	EP 2000-910601 20000122
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
			DE 1999-19903306A 19990128
			WO 2000-EP471 W 20000122
JP 2002535416	T2	20021022	JP 2000-596054 20000122
			DE 1999-19903306A 19990128
			WO 2000-EP471 W 20000122
US 6469114	B1	20021022	US 2000-646176 20000914
			DE 1999-19903306A 19990128
			WO 2000-EP471 W 20000122

OS MARPAT 132:251567

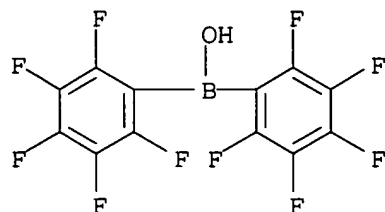
IT **2118-02-7**, Bis(pentafluorophenyl)borinic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of metallocene-based olefin polymn. catalyst systems)

RN 2118-02-7 CAPLUS

CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB The catalyst system consists of a metallocene, a Lewis base, a carrier, an organoboron or organoaluminum compd., and optionally a further organometallic compd. A high catalyst activity and a good polymer morphol. are obtained without the use of aluminoxanes as cocatalysts. Thus, (C₆F₅)₂BOH was heated 8 h at 100.degree. under high vacuum to produce (C₆F₅)₂BOB(C₆F₅)₂, which was deposited on SiO₂ pretreated with PhNMe₂ to give a supported cocatalyst. A toluene soln. of [(dimethylsilylene)bis(2-methyl-4-phenylindenyl)]zirconium dichloride was mixed with Me₃Al and then with the supported cocatalyst, and the solvent was evapd. to give a catalyst powder. The activity of the catalyst powder for bulk polymn. of propylene at 60.degree. was 97 kg polymer/g metallocene per h.

L4 ANSWER 69 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 2000:188361 CAPLUS

DN 132:194495

TI Procedures for production of mono or Di-organo-boranes

IN Bohnen, Hans; Hahn, Ulrich

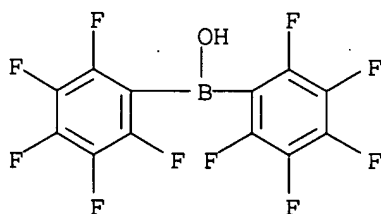
PA Aventis Research & Technologies G.m.b.H. & Co. K.-G., Germany

SO Ger. Offen., 6 pp.

CODEN: GWXXBX

DT Patent
LA German
FAN.CNT 1

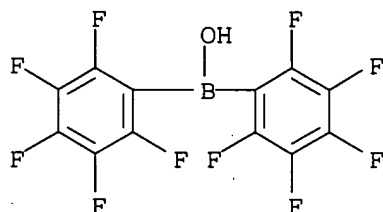
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19843055	A1	20000323	DE 1998-19843055	19980919
	WO 2000017208	A1	20000330	WO 1999-EP6861	19990916
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
				DE 1998-19843055A	19980919
AU	9959788	A1	20000410	AU 1999-59788	19990916
				DE 1998-19843055A	19980919
				WO 1999-EP6861 W	19990916
EP	1114054	A1	20010711	EP 1999-969417	19990916
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
				DE 1998-19843055A	19980919
				WO 1999-EP6861 W	19990916
JP	2002526503	T2	20020820	JP 2000-574117	19990916
				DE 1998-19843055A	19980919
				WO 1999-EP6861 W	19990916
OS	CASREACT 132:194495				
IT	2118-02-7P, Hydroxybis(pentafluorophenyl)borane				
	RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)				
RN	2118-02-7 CAPLUS				
CN	Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)				



AB The available invention concerns a new procedure for prodn. of perhalogenated diorgano hydroxy boranes under tech. feasible conditions. Thus, Grignard arylation of Me_2SnBr_2 with 1-bromo-2,3,4,5,6-pentafluorobenzene in Et_2O in the presence of Mg gave 93% dimethylbis(pentafluorophenyl)stannane. Reaction of dimethylbis(pentafluorophenyl)stannane with BCl_3 gave 70% chlorobis(pentafluorophenyl)borane which on hydrolysis gave 96% hydroxybis(pentafluorophenyl)borane.

L4 ANSWER 70 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:178812 CAPLUS
DN 132:321889

TI (Fluoroorgano)fluoroboranes and -fluoroborates. I. Synthesis and spectroscopic characterization of potassium fluoroaryltrifluoroborates and fluoroaryldifluoroboranes
AU Frohn, H.-J.; Franke, H.; Fritzen, P.; Bardin, V. V.
CS Fachgebiet Anorganische Chemie, Gerhard-Mercator-Universität Duisburg, Duisburg, D-47048, Germany
SO Journal of Organometallic Chemistry (2000), 598(1), 127-135
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
OS CASREACT 132:321889
IT **2118-02-7P**, Bis(pentafluorophenyl)borinic acid
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction with potassium hydrogen difluoride)
RN 2118-02-7 CAPLUS
CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB A convenient prepn. of K[ArBF₃] (Ar = 2-C₆H₄F, 3-C₆H₄F, 4-C₆H₄F, 2,6-C₆H₃F₂, 3,5-C₆H₃F₂, 2,4,6-C₆H₂F₃, 3,4,5-C₆H₂F₃, 2,3,4,5-C₆H₄F, C₆F₅) is offered and the IR and multinuclear NMR spectra of these salts are reported. Treatment of the trifluoroborate salts with BF₃ in chlorocarbon solvents provides an easy synthetic route to the corresponding aryldifluoroboranes ArBF₂. The multinuclear NMR spectra of ArBF₂ are presented. The electron substituent effect of the [-BF₃]-group shows this substituent as one of the strongest .sigma.-electron donors, while its .pi.-electron influence is negligible (.sigma.I = -0.32, .sigma.R = -0.07).
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 71 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:173550 CAPLUS
DN 132:322176
TI Mechanistic Studies of Alkene/CO Polymerization with Palladium Complexes Promoted by B(C₆F₅)₃
AU Barlow, Graham K.; Boyle, Jane D.; Cooley, Neil A.; Ghaffar, Talit; Wass, Duncan F.
CS BP Amoco Chemicals Chemicals Research and Engineering, Sunbury-on-Thames Middlesex, TW16 7LL, UK
SO Organometallics (2000), 19(8), 1470-1476
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
IT **266692-40-4P 266692-41-5P**

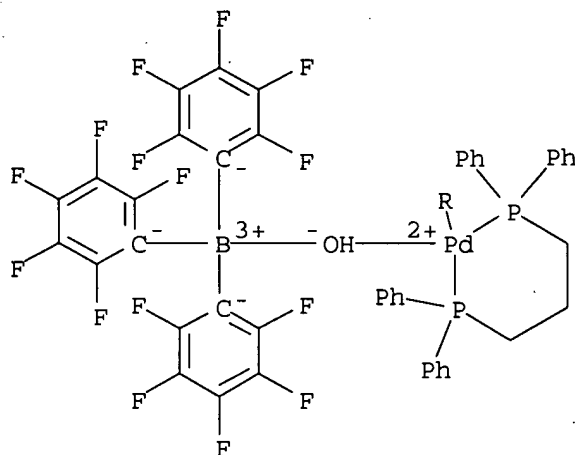
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(prepn. and characterization; mechanistic studies of alkene/CO polymn.
with palladium complexes promoted by tris(pentafluorophenyl)borane)

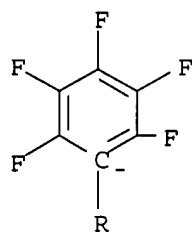
RN 266692-40-4 CAPLUS

CN Palladium, [hydroxytris(pentafluorophenyl)borato(1-)-
.kappa.O] (pentafluorophenyl) [1,3-propanediylbis[diphenylphosphine-
.kappa.P]]-, (SP-4-3)- (9CI) (CA INDEX NAME)

PAGE 1-A



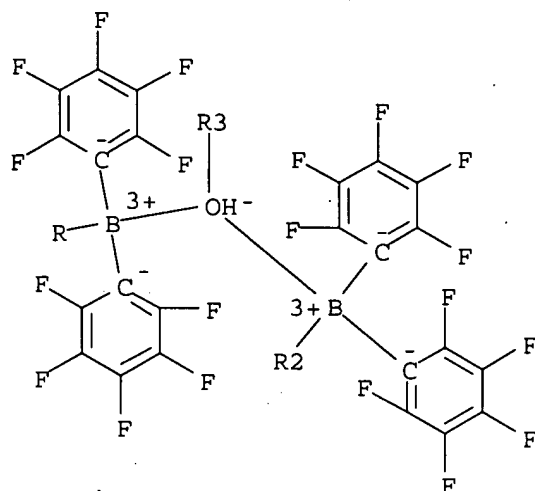
PAGE 2-A



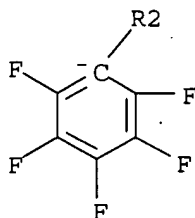
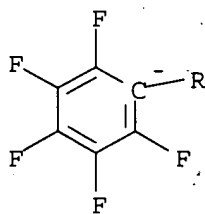
RN 266692-41-5 CAPLUS

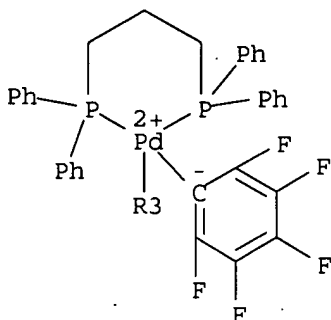
CN Palladium, [mu.-hydroxyhexakis(pentafluorophenyl)diborato(1-)-
.kappa.O] (pentafluorophenyl) [1,3-propanediylbis[diphenylphosphine-
.kappa.P]]-, (SP-4-3)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A





AB The reaction of $\text{Pd}(\text{dppp})(\text{OAc})_2$ [dppp = 1,3-bis(diphenylphosphino)propane] with $\text{B}(\text{C}_6\text{F}_5)_3$ in situ gives an efficient catalyst for alkene/CO polymn. in aprotic media. The borane is consumed during the polymn., and its fluoroaryl groups are incorporated into the polymer chain ends. In the absence of the monomers, the catalyst components react to give $\text{Pd}(\text{II})$ -pentafluoroaryl complexes formulated as $\text{Pd}(\text{dppp})(\text{C}_6\text{F}_5)\{[\text{B}(\text{C}_6\text{F}_5)_3]\text{yOH}\}$ ($\text{y} = 1$, complex 3a; $\text{y} = 2$, complex 3b). Complex 3a can be isolated, albeit as an impure solid, and is itself a catalyst for the reaction. In light of these results, a novel chain initiation process for the polymn. is proposed, involving insertion of monomers into a fluoroarylpalladium complex formed by aryl transfer from the borane to a $\text{Pd}(\text{II})$ complex. This facile initiation step, combined with the catalyst stability engendered by the presence of strong Brønsted acids, explains the effectiveness of this catalyst system in aprotic media.

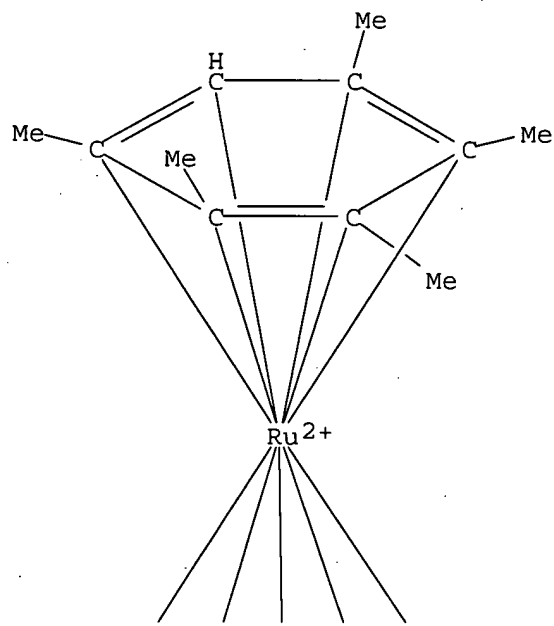
RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 72 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:164834 CAPLUS
DN 132:308476
TI The Mechanism of Carbon-Carbon Bond Activation in Cationic
6-Alkylcyclohexadienyl Ruthenium Hydride Complexes
AU Older, Christina M.; Stryker, Jeffrey M.
CS Department of Chemistry, University of Alberta, Edmonton, AB, T6G 2G2,
Can.
SO Journal of the American Chemical Society (2000), 122(12), 2784-2797
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 132:308476
IT **264615-83-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(demethylation of hexamethylcyclohexadienyl ruthenium complex with
Lewis acids)
RN 264615-83-0 CAPLUS
CN Ruthenium(1+), [(1,2,3,4,5,6-.eta.)-pentamethylbenzene] [(1,2,3,4,5-.eta.)-
1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]-, (T-4)-
hydroxytris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

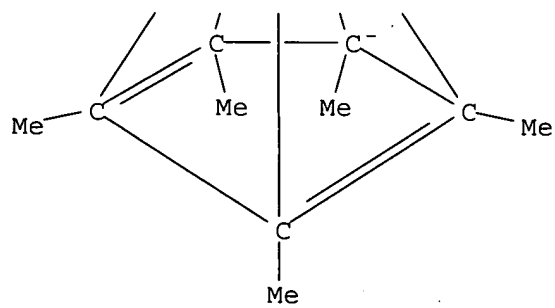
CM 1

CRN 264615-63-6
CMF C21 H31 Ru
CCI CCS

PAGE 1-A

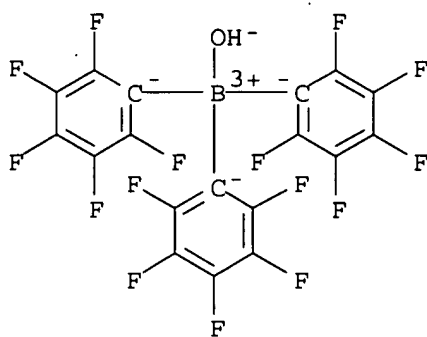


PAGE 2-A



CM 2

CRN 148657-98-1
CMF C18 H B F15 O
CCI CCS

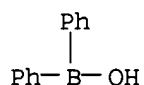


AB C-C bond activation in cationic 6-endo-methyl-.eta.5-cyclohexadienyl and 6-exo-methyl-.eta.5-cyclohexadienyl Ru hydride complexes was studied. Contrary to expectations, it is the 6-exo-Me complex and not the stereoisomeric 6-endo-Me complex that undergoes selective C-C bond activation under exceptionally mild conditions, quant. converting the 6-exo-Me substituent and the hydride ligand to methane. The mechanism of the activation reaction involves dissocn. of protic acid from the agostic starting complex by reaction with a weak base (typically H₂O), followed by protolytic activation of the alkyl group, with backside assistance from the nucleophilic metal center. Under the same conditions, the corresponding 6-endo-Me isomer undergoes selective dehydrogenation rather than demethylation, despite the proximity of the endo-Me substituent to the metal center. For both exo and endo isomers, the cationic Ru hydride intermediates were detd. by spectroscopic anal. to adopt fluxional agostic structures. The agostic complexes are kinetically stable at room temp. under rigorously anhyd. conditions but convert quant. to cationic .eta.6-arene products in the presence of a Bronsted base. The rates of both C-C bond activation and dehydrogenation are dependent on the identity and concn. of the base and suppressed in the presence of excess acid. The protolytic mechanism for C-C bond activation is supported by D-labeling studies and by the reactivity of the neutral complexes toward Lewis acids and 1-electron oxidants. This mechanism is relevant to C-C bond activation reactions obsd. in less-substituted 6-exo-methyl-.eta.5-cyclohexadienyl complexes and in a steroid-derived 6,6-disubstituted-.eta.5-cyclohexadienyl complex, representative of previously reported cases of dealkylative ligand aromatization. The low kinetic barrier for the protolytic dealkylation mechanism is contrasted to the comparatively high activation barriers reported for C-C bond activation reactions that occur in structurally related systems that cannot access a protolytic pathway. This study provides a consistent basis for rationalizing this potentially important but poorly understood class of metal-mediated reactions.

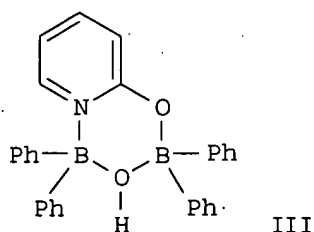
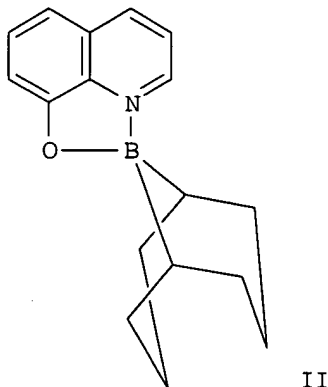
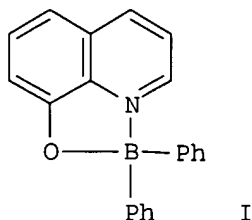
RE.CNT 130 THERE ARE 130 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 73 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:159340 CAPLUS
DN 132:293800
TI X-ray crystallographic study of three (N.fwdarw.B)-borinates prepared from 8-hydroxyquinoline and 2-hydroxypyridine
AU Hopfl, Herbert; Barba, Victor; Vargas, Gabriela; Farfan, Norberto; Santillan, Rosa; Castillo, Dolores
CS Universidad Autonoma del Estado de Morelos, Centro de Investigaciones Quimicas, Mexico, Mex.

SO Chemistry of Heterocyclic Compounds (New York) (Translation of Khimiya Geterotsiklicheskikh Soedinenii) (2000), Volume Date 1999, 35(8), 912-927
 CODEN: CHCCAL; ISSN: 0009-3122
 PB Consultants Bureau
 DT Journal
 LA English
 IT **2622-89-1**, Diphenylborinic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (condensation reaction with 2-hydroxypyridine)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI



AB 8-Hydroxyquinoline and 2-hydroxypyridine were reacted with diphenylborinic acid or 9-BBN to give three heterocyclic products I, II and III. The mol. structure of the resulting heterocycles was studied by x-ray crystallog. (I, space group = P21/c, a = 12.280(1).ANG., b = 17.523(3).ANG., c = 15.158(3).ANG., Z = 8; II, space group = P21/m, a = 8.188(1).ANG., b = 7.005(1).ANG., c = 12.059(1).ANG., Z = 2; III, space group = P21/n, a = 9.505(1).ANG., b = 14.535(1).ANG., c = 22.269(1).ANG., Z = 4). A structural comparison of the so formed five- and six-membered heterocycles with similar complexes obtained from aliph. amino alc. and .alpha.-amino acid derivs. shows significant differences for the N.fwdarw.B, B-O and B-C bond lengths and some of the inner cycle bond angles. Other structural parameters discussed in this respect are the sum of bond lengths at the B

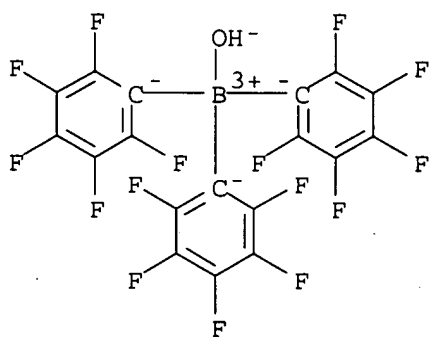
atom, the sum of bond angles in the heterocycle and the tetrahedral character of the B atom. From these parameters a qual. comparison of heterocycle stability is possible.

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 74 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:84010 CAPLUS
DN 132:237402
TI Silica-Grafted Borato Cocatalysts for Olefin Polymerization Modeled by Silsesquioxane-Borato Complexes
AU Duchateau, Robbert; Van Santen, Rutger A.; Yap, G. P. A.
CS Dutch Polymer Institute/Schuit Institute of Catalysis, Eindhoven University of Technology, Eindhoven, 5600 MB, Neth.
SO Organometallics (2000), 19(5), 809-816
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
IT **147892-18-0P 262300-74-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(silica-grafted borato cocatalysts for olefin polymn. modeled by silsesquioxane-borato complexes)
RN 147892-18-0 CAPLUS
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

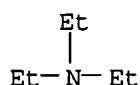
CRN 147892-17-9
CMF C18 H B F15 O . H
CCI CCS



● H⁺

CM 2

CRN 121-44-8
CMF C6 H15 N



RN 262300-74-3 CAPLUS

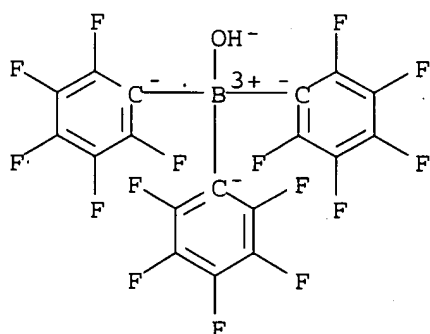
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with N,N-dimethylbenzenamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 147892-17-9

CMF C18 H B F15 O . H

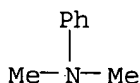
CCI CCS



CM 2

CRN 121-69-7

CMF C8 H11 N

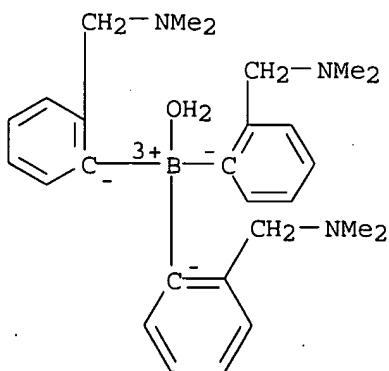


AB The syntheses and reactivity studies of silsesquioxane-borato complexes are described. Treatment of $\text{B}(\text{C}_6\text{F}_5)_3$ with $(\text{c}-\text{C}_5\text{H}_9)_7\text{Si}_8\text{O}_{12}(\text{OH})$ and $(\text{c}-\text{C}_5\text{H}_9)_7\text{Si}_7\text{O}_9(\text{OH})_3$ in the presence of a Bronsted base yields the silsesquioxane-borates $\text{X}^+\{[(\text{c}-\text{C}_5\text{H}_9)_7\text{Si}_8\text{O}_{13}]\text{B}(\text{C}_6\text{F}_5)_3\}^-$ (1a, $\text{X}^+ = \text{PhN}(\text{H})\text{Me}_2^+$; 1b, $\text{X}^+ = \text{Et}_3\text{NH}^+$) and $\text{X}^+\{[(\text{c}-\text{C}_5\text{H}_9)_7\text{Si}_7(\text{OH})_2\text{O}_{10}]\text{B}(\text{C}_6\text{F}_5)_3\}^-$ (1b, $\text{X}^+ = \text{PhN}(\text{H})\text{Me}_2^+$; 2b, $\text{X}^+ = \text{Et}_3\text{NH}^+$), resp. When the more nucleophilic base pyridine is used, $(\text{C}_6\text{F}_5)_3\text{B} \cdot \text{ncdot} \cdot \text{NC}_5\text{H}_5$ (3) is formed instead, demonstrating the competition between $\text{B}(\text{C}_6\text{F}_5)_3$ and H^+ to react with the amine. The dimethylaniline in 1a and 2a is readily exchanged by NEt_3 to form 1b and 2b. With the nucleophilic Lewis base NC_5H_5 , the B-O bond in 1a and 2a is split, yielding $(\text{C}_6\text{F}_5)_3\text{B} \cdot \text{ncdot} \cdot \text{NC}_5\text{H}_5$ (3) and the free

silsesquioxanes. Complexes 1 and 2 rapidly undergo hydrolysis under formation of the hydroxyl complexes $X+\{(C_6F_5)_3BOH\}^-$ (4a, $X^+ = PhN(H)Me_2^+$; 4b, $X^+ = Et_3NH^+$). Likewise, alcoholysis of 1a and 2a with *i*-PrOH yields the alkoxide $\{PhN(H)Me_2\}+\{i-PrOB(C_6F_5)_3\}^-$ (5). The B-O bond is only moderately stable toward early-transition-metal alkyls. Nevertheless, $Cp_2Zr(CH_2Ph)_2 + 1a$ and $Zr(CH_2Ph)_4 + 2a$ form single-site ethylene polymn. catalysts. Detailed reactivity studies demonstrated that both B-O and B-C bond splitting plays a crucial role, as not 1a and 2a, but their decompn. product $B(C_6F_5)_3$ is the actual cocatalyst. The solid-state structures of 1a and 4b were detd. by single-crystal X-ray anal.

RE.CNT 79 THERE ARE 79 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 75 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:816392 CAPLUS
DN 132:151856
TI Deprotonation from an N-Methyl Group in 2-[1-(Dimethylamino)-1-methylethyl]phenylborane Derivatives
AU Asakura, Mitsuhiro; Oki, Michinori; Toyota, Shinji
CS Department of Chemistry Faculty of Science, Okayama University of Science, Ridaicho Okayama, 700-0005, Japan
SO Organometallics (2000), 19(2), 206-208
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
IT **258280-96-5P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (crystal structure)
RN 258280-96-5 CAPLUS
CN Boron, aquatris[2-[(dimethylamino)methyl]phenyl]-, (T-4)- (9CI) (CA INDEX NAME)

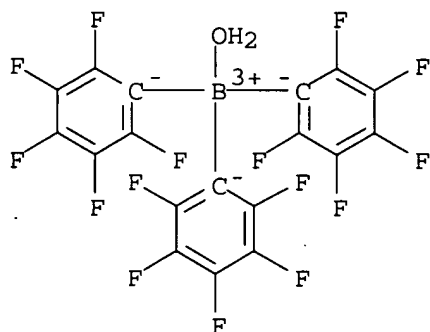


AB Reaction of 2-[1-(dimethylamino)-1-methylethyl]phenyllithium (Ar^*Li) with a trialkyl borate, $B(OR)_3$ (e.g., $R = iPr$), in the 3:1 ratio gave 1- Ar^* -3,4,4-trimethyl-1,2,3,4-tetrahydro-3,1-benzazaborin as a major product together with the corresponding protonated compd. and the boronic acid. The structure of the heterocyclic compd. was detd. by x-ray anal. and NMR spectroscopy. This compd. is formed via the deprotonation from one of the N-Me groups in $Ar^*2B(OR)$ by the remaining Ar^*Li followed by the facile intramol. cyclization between the B and C atoms.

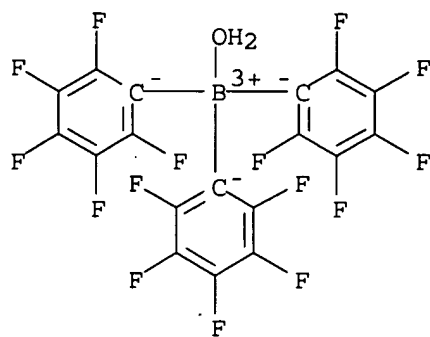
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 76 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1999:789485 CAPLUS
 DN 132:180691
 TI Oxidation of $[M(\eta\text{-C}_5\text{H}_5)_2]$, $M = \text{Cr, Fe or Co}$, by the new Bronsted acid $\text{H}_2\text{O.B}(\text{C}_6\text{F}_5)_3$ yielding the salts $[M(\eta\text{-C}_5\text{H}_5)_2]^+A^-$, where $A^- = [(\text{C}_6\text{F}_5)_3\text{B}(\mu\text{-OH})\text{B}(\text{C}_6\text{F}_5)_3]^-$ or $[(\text{C}_6\text{F}_5)_3\text{BOH}.\text{cndot}.\text{cndot}.\text{cndot}.\text{H}_2\text{OB}(\text{C}_6\text{F}_5)_3]^-$
 AU Doerrer, Linda H.; Green, Malcolm L. H.
 CS Inorganic Chemistry Laboratory, Oxford, OX1 3QR, UK
 SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1999), (24), 4325-4329
 CODEN: JCOTBI; ISSN: 0300-9246
 PB Royal Society of Chemistry
 DT Journal
 LA English
 IT **155962-45-1P**, Aquatris(pentafluorophenyl)boron
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (Bronsted acid; prepn., crystal structure, and oxidn. of metallocenes by)
 RN 155962-45-1 CAPLUS
 CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



IT **259684-54-3P 259684-57-6P 259684-62-3P**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and crystal structure of)
 RN 259684-54-3 CAPLUS
 CN Chromocenium, (T-4)-hydroxytris(pentafluorophenyl)borate(1-), compd. with (T-4)-aquatris(pentafluorophenyl)boron and dichloromethane (1:1:1) (9CI) (CA INDEX NAME)
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 CRN 155962-45-1
 CMF C18 H2 B F15 O
 CCI CCS



CM 2

CRN 75-09-2
CMF C H2 C12

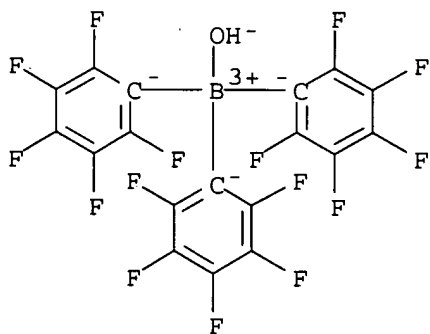
Cl-CH₂-Cl

CM 3

CRN 259684-53-2
CMF C18 H B F15 O . C10 H10 Cr

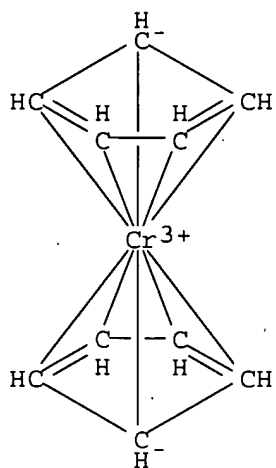
CM 4

CRN 148657-98-1
CMF C18 H B F15 O
CCI CCS



CM 5

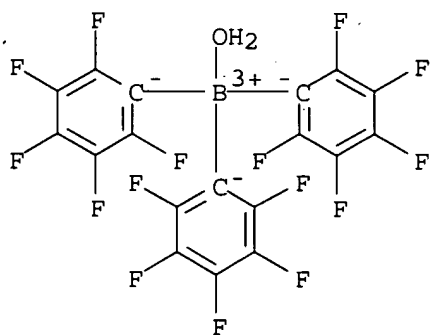
CRN 12793-15-6
CMF C10 H10 Cr
CCI CCS



RN 259684-57-6 CAPLUS
 CN Ferrocenium, (T-4)-hydroxytris(pentafluorophenyl)borate(1-), compd. with
 (T-4)-aquatris(pentafluorophenyl)boron and dichloromethane (2:2:1) (9CI)
 (CA INDEX NAME)

CM 1

CRN 155962-45-1
 CMF C18 H2 B F15 O
 CCI CCS



CM 2

CRN 75-09-2
 CMF C H2 Cl2

Cl-CH₂-Cl

CM 3

CRN 259684-56-5

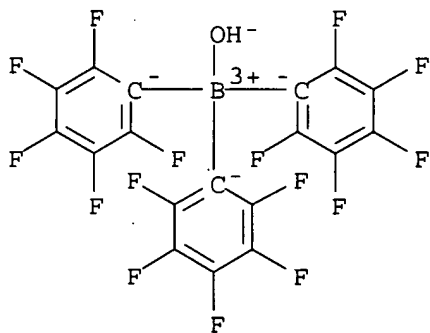
CMF C18 H B F15 O . C10 H10 Fe

CM 4

CRN 148657-98-1

CMF C18 H B F15 O

CCI CCS

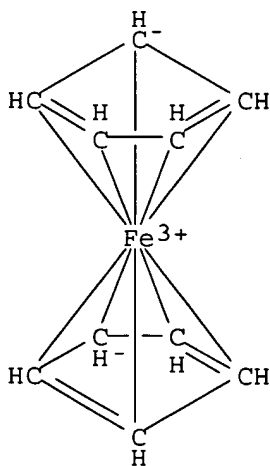


CM 5

CRN 12125-80-3

CMF C10 H10 Fe

CCI CCS



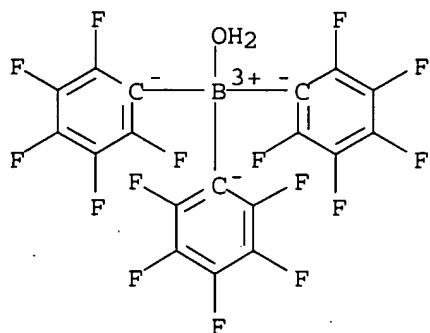
RN 259684-62-3 CAPLUS

CN Cobaltocenium, (T-4)-hydroxytris(pentafluorophenyl)borate(1-), compd. with
(T-4)-aquatris(pentafluorophenyl)boron and dichloromethane (1:1:1) (9CI)
(CA INDEX NAME)

CM 1

CRN 155962-45-1

CMF C18 H2 B F15 O
CCI CCS



CM 2

CRN 75-09-2
CMF C H2 C12

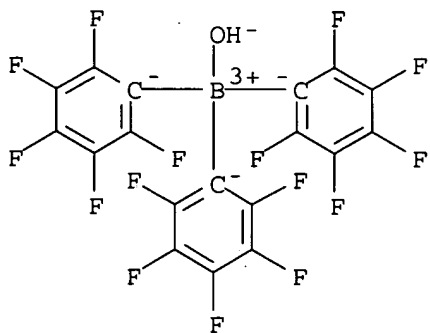
Cl-CH₂-Cl

CM 3

CRN 259684-61-2
CMF C18 H B F15 O . C10 H10 Co

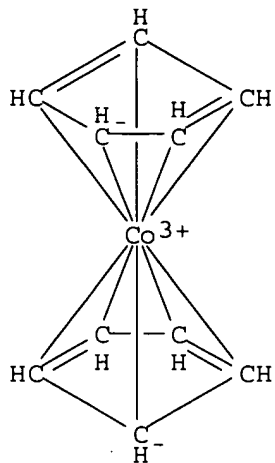
CM 4

CRN 148657-98-1
CMF C18 H B F15 O
CCI CCS

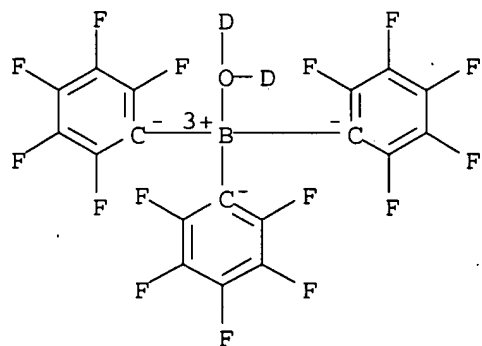


CM 5

CRN 12241-42-8
 CMF C10 H10 Co
 CCI CCS



IT **259684-49-6P**, (Aqua-d2)tris(pentafluorophenyl)boron
259684-66-7P, Bis(.eta.-cyclopentadienyl)chromium(1+)
 (.mu.-hydroxo)bis(tris(pentafluorophenyl)borate) (1-) **259684-69-0P**
 , Bis(.eta.-cyclopentadienyl)cobalt(1+) (.mu.-
 hydroxo)bis(tris(pentafluorophenyl)borate) (1-)
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 259684-49-6 CAPLUS
 CN Boron, aqua-d2-tris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)

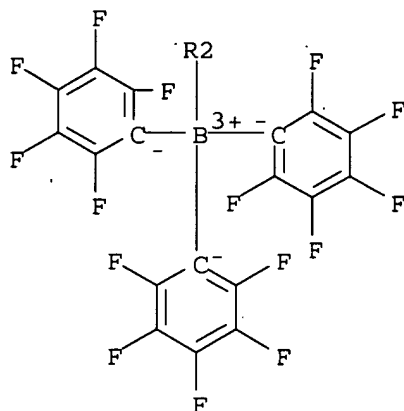


RN 259684-66-7 CAPLUS
 CN Chromocenium, .mu.-hydroxyhexakis(pentafluorophenyl)diborate(1-) (9CI)
 (CA INDEX NAME)

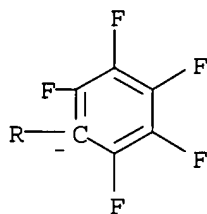
CM 1

CRN 219697-03-7
 CMF C36 H B2 F30 O
 CCI CCS

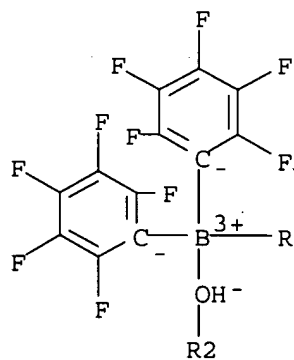
PAGE 1-A



PAGE 2-A

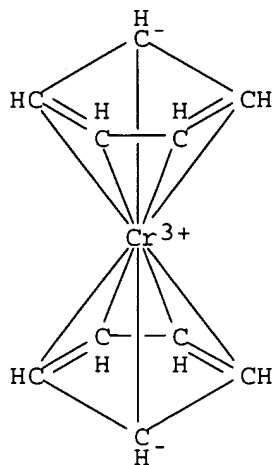


PAGE 3-A



CM 2

CRN 12793-15-6
CMF C10 H10 Cr
CCI CCS

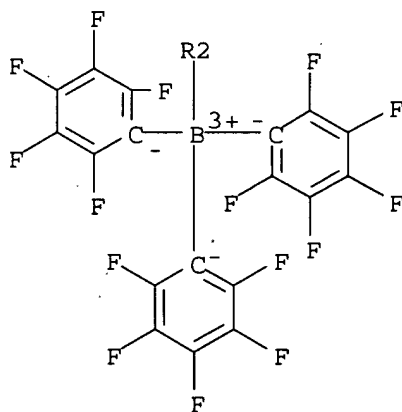


RN 259684-69-0 CAPLUS
 CN Cobaltocenium; .mu.-hydroxyhexakis(pentafluorophenyl)diborate(1-) (9CI)
 (CA INDEX NAME)

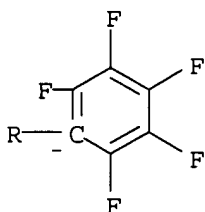
CM 1

CRN 219697-03-7
 CMF C36 H B2 F30 O
 CCI CCS

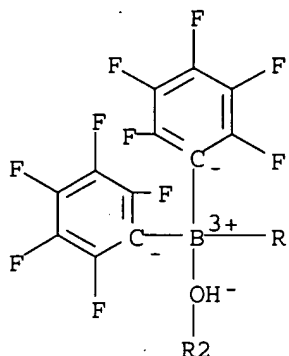
PAGE 1-A



PAGE 2-A

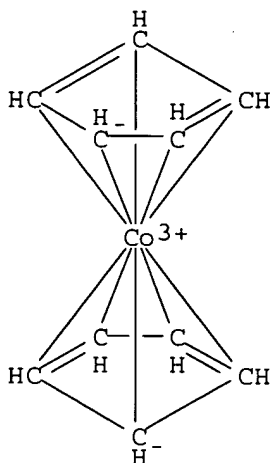


PAGE 3-A



CM 2

CRN 12241-42-8
 CMF C10 H10 Co
 CCI CCS

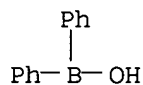


AB The Bronsted acids $\text{H}_2\text{O} \cdot \text{B}(\text{C}_6\text{F}_5)_3$ and $\text{D}_2\text{O} \cdot \text{B}(\text{C}_6\text{F}_5)_3$ were synthesized. Reaction of neutral divalent metallocenes $[\text{M}(\eta\text{-C}_5\text{H}_5)_2]$, $\text{M} = \text{Cr}, \text{Fe}$ or Co , with two equiv. of $\text{H}_2\text{O} \cdot \text{B}(\text{C}_6\text{F}_5)_3$ (2a) resulted in metallocene oxidn. and formation of salts contg. $[\text{M}(\eta\text{-C}_5\text{H}_5)_2]^+$ cations together with the hydroxoborate anion $[\text{HOB}(\text{C}_6\text{F}_5)_3]^-$ which is H bonded to the 2nd acid equiv., $[\text{M}(\eta\text{-C}_5\text{H}_5)_2][(\text{F}_5\text{C}_6)_3\text{BOH} \cdot \text{H}_2\text{OB}(\text{C}_6\text{F}_5)_3]$, $\text{M} = \text{Cr}$ (3a), Fe (4a) or Co (5a). Treatment of one equiv. of 2a and one equiv. of $\text{B}(\text{C}_6\text{F}_5)_3$ with $[\text{M}(\eta\text{-C}_5\text{H}_5)_2]$ yielded salts contg. the same metallocene cations but now with $\mu\text{-OH}$ bridged anions, as in $[\text{M}(\eta\text{-C}_5\text{H}_5)_2][(\text{F}_5\text{C}_6)_3\text{B}(\mu\text{-OH})\text{B}(\text{C}_6\text{F}_5)_3]$, where $\text{M} = \text{Cr}$ or Co . All products were characterized by NMR spectroscopy, elemental anal., and the single-crystal structures of 2a, 3a, 4a, and 5a were detd.

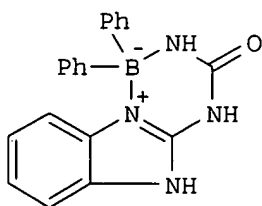
RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 77 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1999:779977 CAPLUS
 DN 132:137431
 TI Boron and transition metal compounds derived from 2-uroylbenzimidazole
 AU Fialon, Marie-Pierre; Garcia-Baez, Efren; Andrade-Lopez, Noemi;
 Osorio-Monreal, Guadalupe; Canseco-Melchor, Graciela; Velazquez-Montes,
 Imelda; Barba-Behrens, Norah; Contreras, Rosalinda
 CS Departamento de Quimica, Centro de Investigacion y de Estudios Avanzados
 del IPN, Mexico, 07000, Mex.
 SO Heteroatom Chemistry (1999), 10(7), 577-584
 CODEN: HETCE8; ISSN: 1042-7163
 PB John Wiley & Sons, Inc.
 DT Journal
 LA English
 OS CASREACT 132:137431
 IT 2622-89-1, Diphenylborinic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclization with uroylbenzimidazole)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI



I

AB The coordination sites of 2-uroylbenzimidazole (1; uroyl = NHC(O)NH₂) toward diphenylborinic acid, as well as Zn, Cd, Cu, Ni and Co chlorides, bromides, and nitrates were studied. The ligand is bonded in monodentate mode to ZnCl₂, ZnBr₂, CdCl₂, CdBr₂, and Cd(NO₃)₂, and in bidentate mode to all others. With diphenylborinic acid, two heterocycles are formed; in one, the B is bonded to imidazole and the terminal NH₂ group, and in the other the B is bonded to imidazole and to the O atom; only I was isolated. B, Zn, and Cd derivs. were studied by NMR spectroscopy. The x-ray diffraction structures of 2-uroylbenzimidazole and L₂CoCl₂ (L = Me 2-benzimidazolylcarbamate) are reported.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 78 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1999:764365 CAPLUS
 DN 132:12606

TI Catalyst system and its use for polymerizing propylene
 IN Bohnen, Hans; Goeres, Markus; Fritze, Cornelia
 PA Aventis Research und Technologies G.m.b.H. und Co. K.-G., Germany
 SO Ger. Offen., 16 pp.
 CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19823172	A1	19991125	DE 1998-19823172	19980523
	WO 9961487	A1	19991202	WO 1999-EP3416	19990518
	W: BR, CN, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1082353	A1	20010314	DE 1998-19823171A	19980523
	R: DE, ES, FR, GB, IT, NL			DE 1998-19823172A	19980523
				EP 1999-953341	19990518
	JP 2002516358	T2	20020604	DE 1998-19823171A	19980523
				DE 1998-19823172A	19980523
				WO 1999-EP3416 W	19990518
				JP 2000-550890	19990518
				DE 1998-19823171A	19980523
				DE 1998-19823172A	19980523
				WO 1999-EP3416 W	19990518
	US 6576723	B1	20030610	US 2000-700425	20001115
				DE 1998-19823171A	19980523
				DE 1998-19823172A	19980523
				WO 1999-EP3416 W	19990518

PATENT FAMILY INFORMATION:

FAN 1999:764364

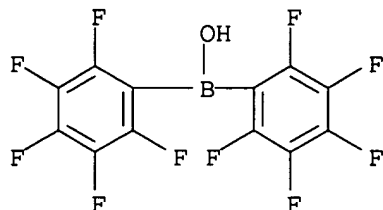
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19823171	A1	19991125	DE 1998-19823171	19980523
	WO 9961487	A1	19991202	WO 1999-EP3416	19990518
	W: BR, CN, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1082353	A1	20010314	DE 1998-19823171A	19980523
	R: DE, ES, FR, GB, IT, NL			DE 1998-19823172A	19980523
				EP 1999-953341	19990518
	JP 2002516358	T2	20020604	DE 1998-19823171A	19980523
				DE 1998-19823172A	19980523
				WO 1999-EP3416 W	19990518
				JP 2000-550890	19990518
				DE 1998-19823171A	19980523
				DE 1998-19823172A	19980523
				WO 1999-EP3416 W	19990518
	US 6576723	B1	20030610	US 2000-700425	20001115
				DE 1998-19823171A	19980523
				DE 1998-19823172A	19980523
				WO 1999-EP3416 W	19990518

OS MARPAT 132:12606

IT 2118-02-7

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant; in prepn. of metallocene catalyst systems for polymn. of

propylene)
 RN 2118-02-7 CAPLUS
 CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB Cost effect highly active aluminoxane-free metallocene catalyst systems for the polymn. of propylene contain .gtoreq.1 metallocene as a rac-meso isomeric mixt., .gtoreq.1 organobor aluminum compd., .gtoreq.1 inert org. or inorg. carrier, .gtoreq.1 Lewis base, and, optionally, .gtoreq.1 addnl. organometal compd. Polymn. proceeds without formation of deposits on the reactor walls and polypropylene with a high m.p. and tacticity is produced. Hydrogen can be used in the polymn. as a mol. wt. regulator or to increase the activity of the catalyst systems. Thus, treatment of trimethylaluminum with pentafluoroboronic acid in toluene gave a clear colorless soln. of bis(pentafluorophenylboroxy)methylalane which was added dropwise to a toluene suspension of silica which had been pretreated with N,N-dimethylaniline. The solvent was evapd. to give a support material which was mixed with a toluene soln. of dimethylsilandiylbis(2-n-propyl-4-(4'-tert-butylphenyl)indenyl)zirconium dichloride (rac/meso ratio 1:1.5 .mu.mol) and trimethylaluminum. Evapn. of the solvent gave a free-flowing rose-colored powder which was used with triisobutylaluminum to polymerize propylene. No deposits were obsd. on the inner walls of the polymn. reactor. The catalyst activity was 161 kg polypropylene/g metallocene/h.

L4 ANSWER 79 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:764364 CAPLUS

DN 132:12587

TI Use of metallocene-containing catalyst system for olefin polymerization

IN Bohnen, Hans; Goeres, Markus; Fritze, Cornelia

PA Aventis Research und Technologies G.m.b.H. und Co. K.-G., Germany

SO Ger. Offen., 14 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19823171	A1	19991125	DE 1998-19823171	19980523
	WO 9961487	A1	19991202	WO 1999-EP3416	19990518
	W: BR, CN, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 1082353	A1	20010314	DE 1998-19823171A	19980523
	R: DE, ES, FR, GB, IT, NL			DE 1998-19823172A	19980523
				EP 1999-953341	19990518
				DE 1998-19823171A	19980523
				DE 1998-19823172A	19980523

JP 2002516358 T2 20020604

US 6576723 B1 20030610

WO 1999-EP3416 W 19990518
 JP 2000-550890 19990518
 DE 1998-19823171A 19980523
 DE 1998-19823172A 19980523
 WO 1999-EP3416 W 19990518
 US 2000-700425 20001115
 DE 1998-19823171A 19980523
 DE 1998-19823172A 19980523
 WO 1999-EP3416 W 19990518

PATENT FAMILY INFORMATION:

FAN 1999:764365

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19823172	A1	19991125	DE 1998-19823172	19980523
	WO 9961487	A1	19991202	WO 1999-EP3416	19990518
	W: BR, CN, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

EP 1082353 A1 20010314
 R: DE, ES, FR, GB, IT, NL

JP 2002516358 T2 20020604

US 6576723 B1 20030610

DE 1998-19823171A 19980523
 DE 1998-19823172A 19980523
 EP 1999-953341 19990518
 DE 1998-19823171A 19980523
 DE 1998-19823172A 19980523
 WO 1999-EP3416 W 19990518
 JP 2000-550890 19990518
 DE 1998-19823171A 19980523
 DE 1998-19823172A 19980523
 WO 1999-EP3416 W 19990518
 US 2000-700425 20001115
 DE 1998-19823171A 19980523
 DE 1998-19823172A 19980523
 WO 1999-EP3416 W 19990518

OS MARPAT 132:12587

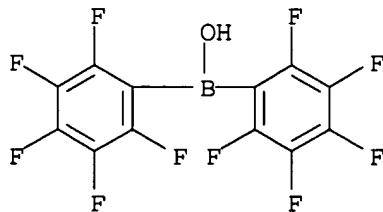
IT **2118-02-7**, Bis(pentafluorophenyl)borinic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant; in prepn. of organobor-aluminum compds. for use in metallocene-contg. catalyst systems for polymn. of olefins)

RN 2118-02-7 CAPLUS

CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

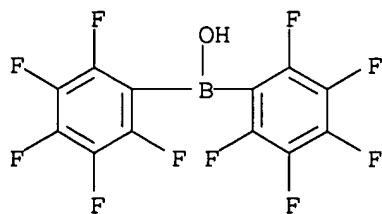


AB Cost effective, highly active catalyst systems for the polymn. of olefins contain .gtoreq.1 metallocene as a rac-meso isomeric mixt., .gtoreq.1 organobor-aluminum compd., .gtoreq.1 org. or inorg. inert support, .gtoreq.1 Lewis base, and, optionally, .gtoreq.1 addnl. organometal compd. The catalyst systems can be used to polymn. olefins without deposit formation on the walls of the polymn. reactor and yield polymers with a

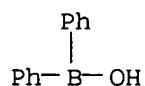
homogeneous granular morphol. The use of hydrogen in polymn. significantly increases the activity of the catalyst systems. Thus, treatment of trimethylaluminum with pentafluoroboronic acid in toluene gave a bis(pentafluorophenylboroxy)methylalane soln. which was added dropwise to a toluene suspension of silica which had been pretreated with N,N-dimethylaniline. The solvent was evapd. to give a support material which was mixed with toluene solns. of dimethylsilandiylbis(2-n-propyl-4-(4'-tert-butylphenyl)-indenyl)zirconium dichloride (rac/meso ratio 1:1.5 .mu.mol) and trimethylaluminum. Evapn. of the solvent gave a rose-colored free-flowing powder.

L4 ANSWER 80 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1999:764363 CAPLUS
 DN 132:12586
 TI Catalyst system for olefin polymerization
 IN Bohnen, Hans; Goeres, Markus; Fritze, Cornelia
 PA Aventis Research und Technologies G.m.b.H. und Co. K.-G., Germany
 SO Ger. Offen., 18 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19823168	A1	19991125	DE 1998-19823168	19980523
	WO 9961488	A1	19991202	WO 1999-EP3415	19990518
	W: BR, CN, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	BR 9910675	A	20010130	DE 1998-19823168A	19980523
				BR 1999-10675	19990518
				DE 1998-19823168A	19980523
				WO 1999-EP3415 W	19990518
	EP 1086146	A1	20010328	EP 1999-925004	19990518
	R: BE, DE, ES, FR, GB, IT, NL, FI				
				DE 1998-19823168A	19980523
				WO 1999-EP3415 W	19990518
	JP 2002516359	T2	20020604	JP 2000-550891	19990518
				DE 1998-19823168A	19980523
				WO 1999-EP3415 W	19990518
OS	MARPAT 132:12586				
IT	2118-02-7 , Bis(pentafluorophenyl)borinic acid 2622-89-1				
	RL: RCT (Reactant); RACT (Reactant or reagent)				
	(reactant; in prepn. of organobor-aluminum compds. for use as catalyst components for polymn. of olefins)				
RN	2118-02-7 CAPLUS				
CN	Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)				



RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Catalyst systems contg. .gtoreq.1 metallocene, .gtoreq.1 Lewis base, a porous inorg. or org. support, .gtoreq.1 organobor-aluminum compd., and, optionally, an organometallic compd. can be used for the polymn. of olefins without the use of the excess aluminoxanes usually needed as cocatalysts and still attain a high catalyst activity and good polymer morphol. A significant increase of the catalyst activity is produced by the addn. of hydrogen during polymn. Thus, treatment of trimethylaluminum with pentafluoroboronic acid in toluene yielded a clear bright yellow soln. of bis(dimethylalumoxy)pentafluorophenylborane which was then dropped into a toluene suspension of SiO₂ which had been pretreated with N,N-dimethylaniline. The blue colored support material obtained by drying the above suspension was then mixed with toluene solns. of dimethylsilandiylbis(2-methyl-4-phenylindenyl)zirconium di-Me and trimethylaluminum and the solvent was evapd. to give a rose-colored free-flowing powder. Propylene was polymd. using this powder and triisobutylaluminum as catalysts. No deposits occurred on the inner wall of the polymn. reactor. The catalyst activity was 26 kg polypropylene/g metallocene/h.

L4 ANSWER 81 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:718943 CAPLUS

DN 131:339340

TI Method of making an improved catalyst containing an acid-treated zeolite, a boron component, and a zinc component, a product from such method, and the use thereof in the conversion of hydrocarbons

IN Drake, Charles A.

PA Phillips Petroleum Co., USA

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5981417	A	19991109	US 1998-40704	19980318
	US 6107534	A	20000822	US 1999-384365	19990825
				US 1998-40704	A319980318

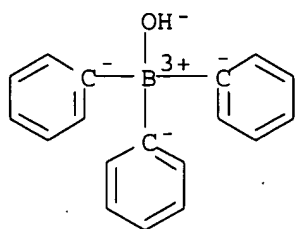
IT 12113-07-4

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(zeolite catalysts contg.; method of making improved catalysts contg. acid-treated zeolites, boron and zinc components, products from such method, and use in conversion of hydrocarbons)

RN 12113-07-4 CAPLUS

CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



● Na⁺

AB The invention relates to an improved zeolite catalyst contg. an acid-treated zeolite, a boron component and a zinc component manufd. by a novel method having certain process steps necessary for providing the improved zeolite catalyst. The process steps include a first steam treatment of an acid-treated zeolite, followed by incorporation of such zeolite with a boron component and a zinc component, followed by a second steam treatment. Processes are also disclosed for using the improved zeolite catalyst in the conversion of hydrocarbons, preferably nonarom. hydrocarbons, to lower olefins (such as ethylene and propylene) and arom. hydrocarbons (such as benzene, toluene, and xylene).

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 82 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:596212 CAPLUS

DN 131:337160

TI Electrophilic Binuclear Methylplatinum(II) Complexes

AU Baar, Cliff R.; Jennings, Michael C.; Puddephatt, Richard J.; Muir, Kenneth W.

CS Department of Chemistry, University of Western Ontario, London, ON, N6A 5B7, Can.

SO Organometallics (1999), 18(21), 4373-4379

CODEN: ORGND7; ISSN: 0276-7333

PB American Chemical Society

DT Journal

LA English

OS CASREACT 131:337160

IT **249643-57-0P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(bo sd)

RN 249643-57-0 CAPLUS

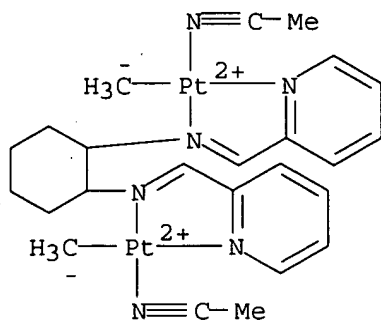
CN Platinum(2+), bis(acetonitrile) [rel-(1R,2R)-N,N'-bis[(2-pyridinyl-.kappa.N)methylene]-1,2-cyclohexanediamine-.kappa.N,.kappa.N']dimethyldi-, stereoisomer, bis[(T-4)-hydroxytris(pentafluorophenyl)borate(1-)] (9CI)
(CA INDEX NAME)

CM 1

CRN 249643-56-9

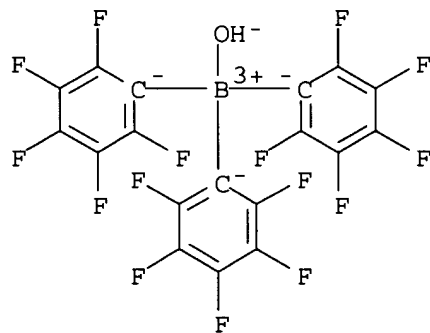
CMF C24 H32 N6 Pt2

CCI CCS



CM 2

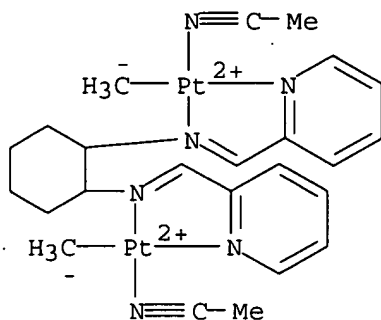
CRN 148657-98-1
 CMF C18 H B F15 O
 CCI CCS



IT **250129-66-9P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 250129-66-9 CAPLUS
 CN Platinum(2+), bis(acetonitrile) [μ-[rel-(1R,2S)-N,N'-bis[(2-pyridinyl-
 .kappa.N)methylene]-1,2-cyclohexanediamine-.kappa.N:.kappa.N']] di-,
 stereoisomer, bis[(T-4)-hydroxytris(pentafluorophenyl)borate(1-)] (9CI)
 (CA INDEX NAME)

CM 1

CRN 250129-65-8
 CMF C24 H32 N6 Pt2
 CCI CCS

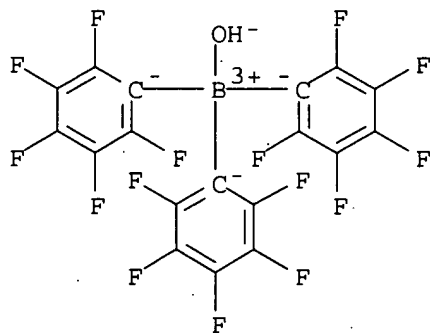


CM 2

CRN 148657-98-1

CMF C18 H B F15 O

CCI CCS



AB The bis(bidentate) ligands trans- and cis-1,2-C₆H₁₀(N:CH-2-C₅H₄N)₂ (1 and 2) yield the diplatinum(II) complexes trans- and cis-1,2-[C₆H₁₀{N:CH-2-C₅H₄N(PtMe₂)₂}₂] (3 and 4, resp.). Reaction of 3 and 4 with [H]⁺[HOB(C₆F₅)₃]⁻ in MeCN or with HBF₄ in the presence of excess CO gave the corresponding electrophilic binuclear complexes trans- and cis-1,2-[C₆H₁₀{N:CH-2-C₅H₄N(PtMeL)₂}₂][X]₂ (5, trans, L = MeCN, X = [HOB(C₆F₅)₃]⁻; 6, cis, L = MeCN, X = [HOB(C₆F₅)₃]⁻; 7, trans, L = CO, X = BF₄⁻; 8, cis, L = CO, X = BF₄⁻). The electrophilic complexes 5-8 are formed by selective Me group protonolysis, and the stereochemistries were confirmed for complexes 7 and 8 by x-ray structure detns.

RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 83 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:530955 CAPLUS

DN 131:170502

TI Preparation of aldehydes or ketones with aryl boron compound catalysts

IN Yamamoto, Takashi; Ishihara, Kazuaki; Kurihara, Hideki

PA Nagoya University, Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

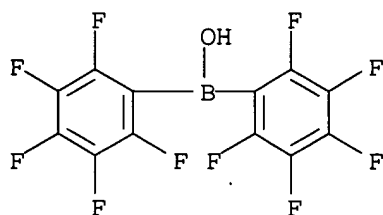
CODEN: JKXXAF

DT Patent

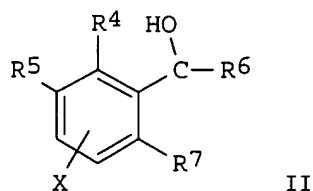
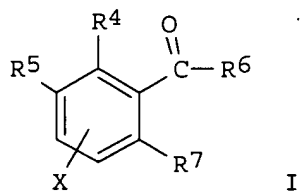
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11228479	A2	19990824	JP 1998-30940	19980213
	JP 2884081	B2	19990419		
	JP 2884081	B1	19990419		
				JP 1998-30940	19980213
OS	CASREACT 131:170502; MARPAT 131:170502				
IT	2118-02-7				
	RL: CAT (Catalyst use); USES (Uses)				
	(prepn. of aldehydes or ketones by oxidn. of alcs. in the presence of aryl boron compds. catalysts)				
RN	2118-02-7 CAPLUS				
CN	Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)				



GI



AB Perillaldehyde, R2CR1:CHR3CHO [R1, R2 = H, (halo-substituted) C1-10 branched or linear (un)satd. aliph. hydrocarbonyl; R3 = C1-4 alkyl, H], arom. ketones I (X = H, halo, C1-4 alkyl; R4 = H; R5 = H, halo, C1-4 alkyl; R6, R7 = H, R4R5 = benzene ring; R6R7 = 5-membered ring), myrtenal, or (1S)-(-)-verbenone is prepd. by oxidn. of perillyl alc.,

R2CR1:CHR3CHR4OH (R1-R3 = same as above), arom. alcs. II (R4-R7, X = same as I), myrtenol, or (S)-cis-verbenol in the presence of ArB(OH)3-n (Ar = pentafluorophenyl; n = 2-3). (S)-perillyl alc. was oxidized in the presence of bis(pentafluorophenyl)boric acid, MgSO4, and t-BuCHO in PhMe at room temp. for 3 h to give 99% perillaldehyde.

L4 ANSWER 84 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:511196 CAPLUS

DN 131:170746

TI Metallocene catalysts for polymerization of olefins

IN Bohnen, Hans; Fritze, Cornelia

PA Targor G.m.b.H., Germany

SO PCT Int. Appl., 86 pp.

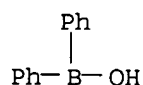
CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9940129	A1	19990812	WO 1999-EP725	19990205
W: BR, CA, CN, GD, IN, JP, KR, NO, RU, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19804970	A1	19990812	DE 1998-19804970A	19980207
ZA 9900919	A	20000807	DE 1998-19804970	19980207
EP 1053263	A1	20001122	ZA 1999-919	19990205
R: BE, DE, ES, FR, GB, IT, NL, FI				
BR 9914227	A	20010626	DE 1998-19804970A	19980207
JP 2002502896	T2	20020129	WO 1999-EP725 W	19990205
US 6482902	B1	20021119	BR 1999-14227	19990205
			DE 1998-19804970A	19980207
			WO 1999-EP725 W	19990205
			JP 2000-530556	19990205
			DE 1998-19804970A	19980207
			WO 1999-EP725 W	19990205
			US 2000-600313	20000713
			DE 1998-19804970A	19980207
			WO 1999-EP725 W	19990205
OS	MARPAT 131:170746			
IT	2622-89-1P , Diphenylborinic acid			
	RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)			
	(reaction with trimethylaluminum)			
RN	2622-89-1 CAPLUS			
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)			



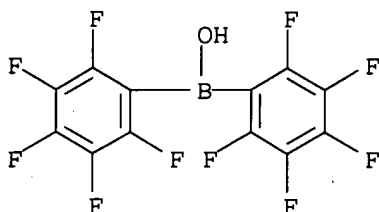
IT **2118-02-7**, Bis(pentafluorophenyl)borinic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction with trimethylaluminum)

RN 2118-02-7 CAPLUS

CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB The title catalysts, having high activity and giving polymers with good morphol., contain metallocenes, Lewis bases and org. B-Al compds. of specified structure, supports, and, optionally, organometallic compds. of Group IA, IIA, or IIIA elements. Stirring 1.5 L liq. C₃H₆ with 3 mL iso-Bu₃Al (20% in Varsol) for 15 min, adding 5.8 mg (dimethylsilanediyl)bis(2-methyl-4-phenylindenyl)zirconiumdimethyl, 0.5 g supported bis(dimethylaluminumoxy)pentafluorophenylborane, and 20 .mu.mol AlMe₃, and stirring for 1 h at 60.degree. gave 151 g powd. polypropylene (26 kg/g metallocene-h).

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 85 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:459403 CAPLUS

DN 131:214382

TI The One-Electron Oxidation of an Azazirconacyclobutene in the Presence of B(C₆F₅)₃

AU Harlan, C. Jeff; Hascall, Tony; Fujita, Etsuko; Norton, Jack R.

CS Department of Chemistry, Columbia University, New York, NY, 10027, USA

SO Journal of the American Chemical Society (1999), 121(31), 7274-7275

CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

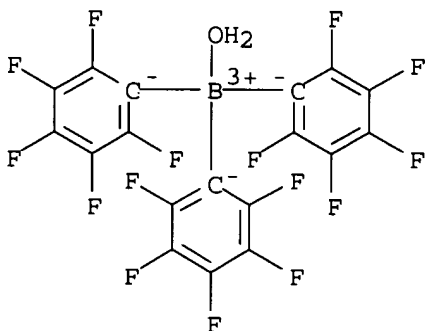
IT 155962-45-1, Aquatris(pentafluorophenyl)boron

RL: RCT (Reactant); RACT (Reactant or reagent)

(one-electron oxidn. of azazirconacyclobutene in presence of)

RN 155962-45-1 CAPLUS

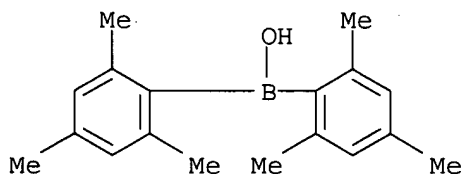
CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



AB Cp₂Zr(PhC:CPhtBu-C,N) (1) undergoes partial (< 1%) oxidn. in the presence of B(C₆F₅)₃. 1 Could be electrochem. oxidized. to 1.bul.+ (E.degree.1/2 = -0.07 vs. SCE in CH₂Cl₂ (Bu₄NPF₆, 0.1 N; 50 mV/s)). The electron exchange rate const. for 1 + 1.bul.+ is 1.5 .times. 10⁸ M⁻¹ s⁻¹ at 293 K, implying a hyperfine atBu = 0.071 G and that for C₅H₅ protons = 0.018 G. In an effort to generate a radical anion from B(C₆F₅)₃, it was treated with cobaltocene to give [Cp₂Co][HB(C₆F₅)₃] and CpCo(.eta.5-C₅H₄B(C₆F₅)₃), the latter of which was characterized by x-ray crystallog. 1.bul.+ Was also formed from 1 and ferricinium, (H₂O)B(C₆F₅)₃, [PhNMe₂H][B(C₆F₅)₄], or Me aluminoxane.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 86 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:434462 CAPLUS
DN 131:184996
TI Dimesitylaminoboranes and unsymmetric triaminoboranes. Stability of aminodioxaboroles and dimesitylboroxyethanol
AU Maarouf, Z. Ben; Chazalette, C.; Riviere-Baudet, M.; Riviere, P.
CS Laboratoire de Chimie Organique et Organometallique, Universite Ibnou Zohr, Agadir, Morocco
SO Main Group Metal Chemistry (1999), 22(6), 405-412
CODEN: MGMCE8; ISSN: 0792-1241
PB Freund Publishing House Ltd.
DT Journal
LA English
IT 20631-84-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 20631-84-9 CAPLUS
CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)

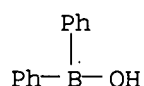


AB Bulky dimesitylaminoboranes, unsym. triaminoboranes and an amino boron sulfonamide were prepd. either by transmetalation or transamination reactions. From tris(diethylamino)borane, diethylaminodioxaborole was obtained either by protic cleavage by 3,5-di-t-butylcatechol or by addn. reaction of 3,5-di-t-butyl-o-quinone through S.E.T. in the first step of the reaction. From the same tris(diethylamino)borane, 1,2-ethanediol did not lead to the expected diethylaminodioxaborolane but to 2,5,7,10,11,14-hexaoxa-1,6-diborane bicyclo[4.4.4]tetradecane. 2-Dimesitylboroxyethanol, isolated as a white powder, is not thermally stable and leads either to 1,2-bis(dimesitylboroxy)ethane or to 1,3-dioxaborolane with mesitylene elimination. Dimesitylboranes undergo nucleophilic substitution of a mesityl group in the presence of a strong nucleophile.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 87 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:409650 CAPLUS
DN 131:157779
TI Copper-catalyzed sodium tetraphenylborate, triphenylborane,
diphenylborinic acid and phenylboronic acid decomposition kinetic studies
in aqueous alkaline solutions
AU Crawford, C. L.; Barnes, M. J.; Peterson, R. A.; Wilmarth, W. R.; Hyder,
M. L.
CS Savannah River Site, Westinghouse Savannah River Company, Aiken, SC, USA
SO Journal of Organometallic Chemistry (1999), 581(1-2), 194-206
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
IT 2622-89-1, Diphenylborinic acid
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC
(Process); RACT (Reactant or reagent)
(copper-catalyzed decompn. kinetics of sodium tetraphenylborate,
triphenylborane, diphenylborinic acid, and phenylboronic acid in aq.
alk. solns.)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

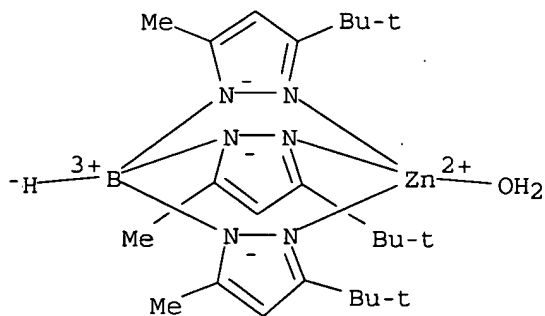


AB This work studied the kinetics of copper-catalyzed decompn. of
tetraphenylborate, triphenylborane, diphenylborinic acid and phenylboronic
acid (NaTPB, 3PB, 2PB and 1PB, resp.) in aq. alk. soln. over the temp.
range of 25-70.degree.. The statistically designed test matrixes added
copper sulfate to max. concns. of 10 mg/l. The relative rates of decompn.
increase in the order NaTPB < 1PB .apprx. 3PB < 2PB. Dependence of
decompn. on the amt. of added copper increases in the order 3PB .apprx.
2PB < 1PB .apprx. NaTPB. Activation energies ranged from 82-143 kJ mol⁻¹
over the temp. range studied. Final decompn. products involved benzene
and phenol predominately. All 3PB, 2PB and 1PB intermediate phenylborate
species proved relatively stable (< 8% decompn. over ca. 500 h) towards
thermal hydrolysis in 1.5 M NaOH when contained in carbon-steel vessels
sealed under air at ambient temp. (23-25.degree.) with no added copper.
Measurable (> 10⁻⁷ M h⁻¹) thermal hydrolysis of the phenylborate species
occurs at 55-70.degree. in alk. (0.6-2.3 M OH⁻, 2-4.7 M Na⁺) soln. with no
added copper. The expts. suggest an important role for oxygen in
copper-catalyzed phenylborate decompn. NaTPB decompn. promptly under
anoxic conditions while 3PB, 2PB and 1PB decomp. faster in aerobic solns.
Benzene and phenol form as the predominant end-products from alk. copper
catalysis in static systems sealed under air. Both 2PB and 1PB decomp.
with near equal rates and quant. produce phenol under flowing air-purge
conditions at 25-60.degree.. Mechanisms for copper-catalyzed phenylborate
decompn. likely involve a redox process giving loss of a Ph group from the
phenylborate with redn. of cupric ion, or dephenylation by reduced cuprous
ion involving a phenylated copper intermediate.

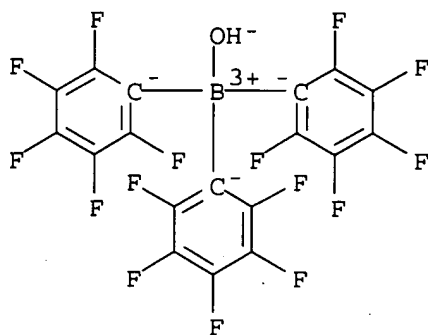
RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 88 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:384961 CAPLUS

DN 131:210950
 TI Protonation of the Hydroxide Ligand in a Synthetic Analogue of Carbonic Anhydrase, [TpBut,Me]ZnOH: Inhibition of Reactivity Towards CO₂
 AU Bergquist, Catherine; Parkin, Gerard
 CS Department of Chemistry, Columbia University, New York, NY, 10027, USA
 SO Journal of the American Chemical Society (1999), 121(26), 6322-6323
 CODEN: JACSAT; ISSN: 0002-7863
 PB American Chemical Society
 DT Journal
 LA English
 IT **243121-77-9P**
 RL: BSU (Biological study, unclassified); SPN (Synthetic preparation);
 BIOL (Biological study); PREP (Preparation)
 (protonation of the hydroxide ligand in a synthetic analog of carbonic anhydrase causes inhibition of reactivity towards carbon dioxide)
 RN 243121-77-9 CAPLUS
 CN Zinc(1+), aqua[tris[3-(1,1-dimethylethyl)-5-methyl-1H-pyrazolato-.kappa.N1]hydroborato(1-)-.kappa.N2,.kappa.N2',.kappa.N2'']-, (T-4)-, (T-4)-hydroxytris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)
 CM 1
 CRN 243121-76-8
 CMF C24 H42 B N6 O Zn
 CCI CCS



CM 2
 CRN 148657-98-1
 CMF C18 H B F15 O
 CCI CCS



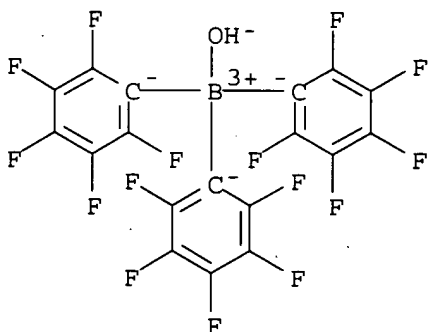
IT 147892-17-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(protonation of the hydroxide ligand in a synthetic analog of carbonic anhydrase causes inhibition of reactivity towards carbon dioxide)

RN 147892-17-9 CAPLUS

CN Borate(1-), hydroxytris(pentafluorophenyl)-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)

● H⁺

AB An essential step in the mechanisms of action of a large variety of zinc enzymes, such as carbonic anhydrase, involves reversible proton transfer which serves to interconvert the aqua and hydroxide forms of the active sites, [LZn-OH₂]²⁺ and [LZn-OH]⁺. Surprisingly, however, examples of this transformation for which both partners have been isolated and structurally characterized are unknown. In this paper, we report the synthesis and structural characterization of a monomeric zinc aqua complex, which is obtained by protonation of the hydroxide form of a synthetic analog of carbonic anhydrase, and also demonstrate that protonation inhibits reactivity towards CO₂.

RE.CNT 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

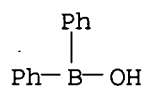
L4 ANSWER 89 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:261740 CAPLUS

DN 131:5286

TI NMR structural analysis of boron derivatives of 2-guanidinobenzimidazole

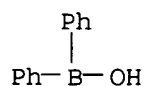
AU Andrade-Lopez, N.; Tlahuext, H.; Contreras, R.
CS Departamento de Quimica, Centro de Investigacion y de Estudios Avanzados del Instituto Politecnico Nacional, Mexico, 07000, Mex.
SO Congreso Iberoamericano de Quimica Inorganica, 6th, Puebla, Mex., Apr. 20-25, 1997 (1997), 274-277 Publisher: Asociacion Mexicana de Quimica Inorganica, Guanajuato, Mex.
CODEN: 67NIAA
DT Conference
LA Spanish
IT **2622-89-1**, Diphenylborinic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(NMR structural anal. of boron derivs. of guanidinobenzimidazole)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB A symposium article with 2 refs. Mol. structures of the title compds., formed by reaction of 2-guanidinobenzimidazole with RR1BOH (R = R1 = Ph, F, OH; R = Ph, R1 = OH, OMe), were examd. in soln. by NMR and by reactions with acids and water. All 5 products exist as equil. mixts. of tautomers in soln., with one predominating. The structure of the compd. prepd. from Ph2BOH was detd. by x-ray crystallog.

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 90 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:261730 CAPLUS
DN 131:5285
TI Bora heterocycles derived from 2-guanidinobenzimidazole
AU Cartas-Rosado, A. R.; Andrade-Lopez, N.; Contreras, R.
CS Departamento de Quimica, Centro de Investigacion y de Estudios Avanzados del Instituto Politecnico Nacional, Mexico, 07000, Mex.
SO Congreso Iberoamericano de Quimica Inorganica, 6th, Puebla, Mex., Apr. 20-25, 1997 (1997), 235-238 Publisher: Asociacion Mexicana de Quimica Inorganica, Guanajuato, Mex.
CODEN: 67NIAA
DT Conference
LA Spanish
IT **2622-89-1**, Diphenylborinic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of tetraaza bora heterocycles derived from guanidinobenzimidazoles)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

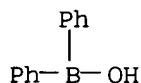


AB A symposium article with 3 refs. Cyclization of 2-guanidinobenzimidazole or 1-methyl-2-guanidinobenzimidazole with Ph2BOH or PhB(OH)2 in MeOH/THF

gave title compds. contg. 6-membered rings having 3 N atoms and 1 B.
Structures of 2 of the PhB(OH)₂ products were detd. by x-ray crystallog.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 91 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:205868 CAPLUS
DN 130:338147
TI Synthesis and structural characterization of (2'-hydroxyacetophenoneazine)mono(diphenylboron) chelate
AU Hopfl, H.; Farfan, N.
CS Centro Investigacione Quimicas, Univ. Autonoma del Estado Morelos, Cuernavaca, Morelos, 62210, Mex.
SO Canadian Journal of Chemistry (1998), 76(12), 1853-1859
CODEN: CJCHAG; ISSN: 0008-4042
PB National Research Council of Canada
DT Journal
LA English
IT 2622-89-1, Diphenylborinic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. and structure of hydroxyacetophenone azine diphenylboron chelates)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Boron chelates obtained from salicylaldehyde and 2'-hydroxyacetophenone azine are colored compds. with potential applications in anal. chem. These complexes were not studied by x-ray crystallog., although two structures with a six- or a seven-membered chelate ring are possible. The x-ray anal. of 2'-hydroxyacetophenone azine and its corresponding new mono(diphenylboron) chelate with a six-membered B heterocyclic ring are presented. With these data structural changes of the ligand on chelate formation and structural differences in comparison to salicylaldehyde azomethine B chelates are discussed.

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 92 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1999:96523 CAPLUS
DN 130:168777
TI Organic compounds containing boron and aluminum, and their manufacture and use for catalysts for olefin polymerization
IN Bohnen, Hans
PA Hoechst A.-G., Germany
SO Ger. Offen., 16 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19733017	A1	19990204	DE 1997-19733017	19970731

WO 9906414 A1 19990211 WO 1998-EP4628 19980723
 W: BR, CA, CN, JP, KR, NO, US
 RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
 PT, SE

EP 1003753 A1 20000531 DE 1997-19733017A 19970731
 EP 1003753 B1 20030305 EP 1998-942608 19980723

R: AT, BE, DE, ES, FR, GB, IT, NL, FI

BR 9810857 A 20000725 DE 1997-19733017A 19970731
 WO 1998-EP4628 W 19980723
 BR 1998-10857 19980723

JP 2001512128 T2 20010821 DE 1997-19733017A 19970731
 WO 1998-EP4628 W 19980723
 JP 2000-505172 19980723

AT 233771 E 20030315 DE 1997-19733017A 19970731
 WO 1998-EP4628 W 19980723

ZA 9806801 A 20000131 AT 1998-942608 19980723
 DE 1997-19733017A 19970731

US 6417302 B1 20020709 WO 1998-EP4628 W 19980723
 ZA 1998-6801 19980730

DE 1997-19733017A 19970731
 US 2000-463436 20000127

DE 1997-19733017A 19970731
 WO 1998-EP4628 W 19980723

OS MARPAT 130:168777

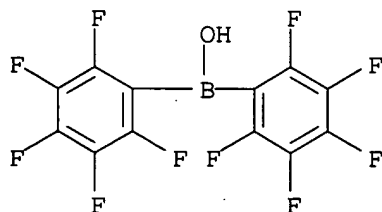
IT 2118-02-7 2622-89-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(catalyst precursor; org. compds. contg. boron and aluminum for
 catalysts for olefin polymn.)

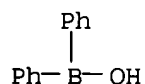
RN 2118-02-7 CAPLUS

CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB R12BXAlRaRb (I; R1, Ra, Rb = H, halo, or org. group; X = group VIA element or NR; R = H or C1-20 hydrocarbyl) are manufd. by reaction of the corresponding organoaluminum compds. with the corresponding hydroxy organoborines or diorganoboric acid (anhydrides) for use with transition metal compds. as catalysts for the polymn. of olefins. I exhibit low sensitivity to catalyst poisons. A typical I was manufd. by adding a

soln. of 20 mmol bis(pentafluorophenyl)boric acid in 50 mL PhMe to 10 mmol Me₃Al in PhMe at -40.degree. in 15 min and stirring 1 h each at -40.degree. and room temp.

L4 ANSWER 93 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1999:7834 CAPLUS

DN 130:61054

TI Inhibitors of .beta.-lactamases and uses therefor

IN Weston, Grady Scott; Shoichet, Brian K.

PA Northwestern University, USA

SO PCT Int. Appl., 79 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9856392	A1	19981217	WO 1998-US12096	19980612
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9881408	A1	19981230	US 1997-49992P P	19970613
				AU 1998-81408	19980612
				US 1997-49992P P	19970613
				WO 1998-US12096W	19980612
	EP 1009415	A1	20000621	EP 1998-931233	19980612
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI			
				US 1997-49992P P	19970613
				WO 1998-US12096W	19980612
	JP 2002504122	T2	20020205	JP 1999-503192	19980612
				US 1997-49992P P	19970613
				WO 1998-US12096W	19980612

PATENT FAMILY INFORMATION:

FAN 2001:91533

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6184363	B1	20010206	US 1998-212851	19981216
				US 1997-49992P P	19970613
				US 1998-96893 A2	19980612
	US 6075014	A	20000613	US 1998-96893	19980612
				US 1997-49992P P	19970613
	US 6417174	B1	20020709	US 2000-587794	20000606
				US 1997-49992P P	19970613
				US 1998-96893 A3	19980612
	US 6448238	B1	20020910	US 2000-620268	20000719
				US 1997-49992P P	19970613
				US 1998-96893 A2	19980612
				US 1998-212851 A3	19981216

OS MARPAT 130:61054

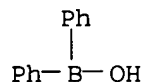
IT 2622-89-1, Diphenylborinic acid

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(inhibitors of .beta.-lactamases and uses in combination with .beta.-lactam antibiotics to treat resistant bacterial infections in relation to antibacterial activity and mol. modeling)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The invention provides novel non-.beta.-lactam inhibitors of .beta.-lactamases. In particular, the invention provides such inhibitors which are boronic acids which is set forth in the specification. These compds. may be used with .beta.-lactam antibiotics to treat .beta.-lactam-antibiotic-resistant bacterial infections. These compds. are also antibacterial by themselves. Finally, the invention provides a pharmaceutical compn. comprising these compds.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 94 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:811229 CAPLUS

DN 130:162528

TI Development of high-performance liquid chromatographic methods for measuring tetraphenylborate decomposition products in radioactive alkaline solutions

AU Hsu, Chia-lin W.; White, Thomas L.

CS Westinghouse Savannah River Technology Center, Aiken, SC, 29808, USA

SO Journal of Chromatography, A (1998), 828(1 + 2), 461-467

CODEN: JCRAEY; ISSN: 0021-9673

PB Elsevier Science B.V.

DT Journal

LA English

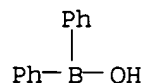
IT 2622-89-1, Diphenylborinic acid

RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study);
FORM (Formation, nonpreparative)

(detection in tetraphenylborate decompn. products in radioactive alk. solns. by HPLC)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Sodium tetraphenylborate (NaTPB) was used at the Savannah River Site to ppt. and remove the gamma-emitting radionuclide Cs-137 from alk. high-level waste. The concns. of NaTPB decompn. products such as triphenylborane, diphenylborinic acid, phenylboronic acid, and phenol indicate the rate of decompn. of TPB in storage tanks prior to processing. A simple and speedy sample prepn. protocol and two reverse-phase HPLC methods were developed to monitor the concns. of TPB and all the decompn. products in a complex matrix mainly consisting of 5 M sodium salts and 0.5 M aluminate. Approx. 4000 radioactive and nonradioactive samples per yr

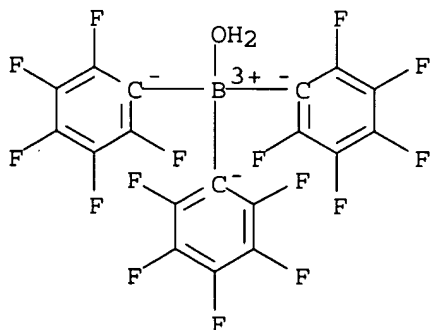
were analyzed since the methods were implemented.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 95 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:796631 CAPLUS
DN 130:31426
TI A water adduct of tris(pentafluorophenyl)borane: (C₆F₅)₃B(OH₂)-dioxane-CH₂Cl₂ (1/1/1)
AU Janiak, Christoph; Braun, Lothar; Scharmann, Tobias G.; Girgsdies, Frank
CS Inst. Anorganische und Analytische Chemie, Universitat Freiburg, Freiburg, D-79104, Germany
SO Acta Crystallographica, Section C: Crystal Structure Communications (1998), C54(11), 1722-1724
CODEN: ACSCEE; ISSN: 0108-2701
PB Munksgaard International Publishers Ltd.
DT Journal
LA English
IT 216259-70-0
RL: PRP (Properties)
(crystal structure of)
RN 216259-70-0 CAPLUS
CN Boron, aquatris(pentafluorophenyl)-, (T-4)-, compd. with dichloromethane and 1,4-dioxane (1:1:1) (9CI) (CA INDEX NAME)

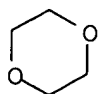
CM 1

CRN 155962-45-1
CMF C18 H2 B F15 O
CCI CCS



CM 2

CRN 123-91-1
CMF C4 H8 O2



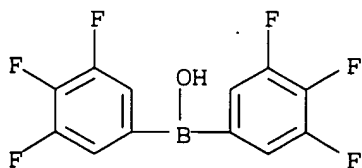
CM 3

CRN 75-09-2
CMF C H2 Cl2Cl-CH₂-Cl

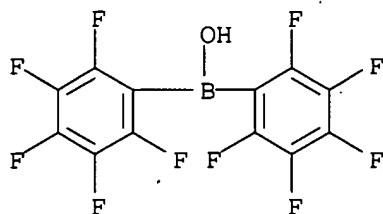
AB The CH₂Cl₂ solvate of the 1:1 aquatris(pentafluorophenyl)borane-dioxane adduct, [B(C₆F₅)₃(H₂O)]·n·C₄H₈O₂·CH₂Cl₂, is a H₂O complex of tris(pentafluorophenyl)borane, which was crystd. from dioxanemethylene chloride soln. Crystallog. data are given. The H₂O mol. was carried in either through improperly dried solvent or during the process of crystn. The structure contains one dioxane and one CH₂Cl₂ mol. per formula unit. Two dioxane mols. form H bridges to the H₂O mol. and also bridge between two different adduct moieties, so that an infinite chain of borane-H₂O adducts and dioxane mols. is created.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 96 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:756217 CAPLUS
DN 130:81252
TI Diarylborinic acids as efficient catalysts for selective dehydration of aldols
AU Ishihara, Kazuaki; Kurihara, Hideki; Yamamoto, Hisashi
CS Graduate School Engineering, CREST, Japan Science Technology Corporation, Nagoya University, Nagoya, 464, Japan
SO Synlett (1997), (5), 597-599
CODEN: SYNLES; ISSN: 0936-5214
PB Georg Thieme Verlag
DT Journal
LA English
OS CASREACT 130:81252
IT **218932-40-2P**, Bis(3,4,5-trifluorophenyl)borinic acid
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)
(catalyst for Mukaiyama aldol condensation)
RN 218932-40-2 CAPLUS
CN Borinic acid, bis(3,4,5-trifluorophenyl)- (9CI) (CA INDEX NAME)



IT **2118-02-7**, Bis(pentafluorophenyl)borinic acid
RL: CAT (Catalyst use); USES (Uses)
(diarylborinates as catalysts for selective dehydration of aldols)
RN 2118-02-7 CAPLUS
CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



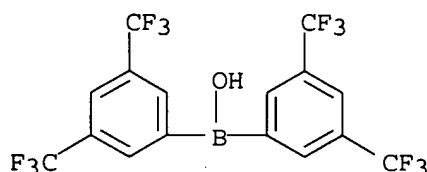
IT 211636-23-6P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);
USES (Uses)

(diarylborinates as catalysts for selective dehydration of aldols)

RN 211636-23-6 CAPLUS

CN Borinic acid, bis[3,5-bis(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



AB Diarylborinates with electron-withdrawing substituents at their aryl groups are efficient Lewis acid catalysts for Mukaiyama aldol condensation and selective dehydration of anti-aldols to .alpha.,.beta.-enones in the presence of syn-aldols. The Lewis acidities of diarylborinates are much higher than those of the corresponding arylboronates.

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 97 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:730205 CAPLUS

DN 130:81759

TI Stereoselective hydrolysis of p-nitrophenyl glycoside by boronic acid

AU Ohe, Takeru; Kida, Toshiyuki; Zhang, Wanbin; Nakatsuji, Yohji; Ikeda, Isao

CS Department of Applied Chemistry, Faculty of Engineering, Osaka University, Suita, 565-0871, Japan

SO Chemistry Letters (1998), (11), 1077-1078

CODEN: CMLTAG; ISSN: 0366-7022

PB Chemical Society of Japan

DT Journal

LA English

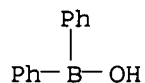
IT 2622-89-1, Diphenylborinic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(stereoselective hydrolysis of p-nitrophenyl glycoside by boronic acid)

RN 2622-89-1 CAPLUS

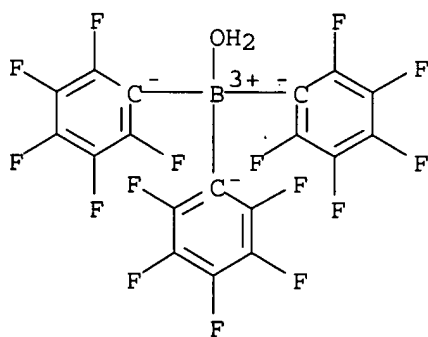
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The alk. hydrolysis of p-nitrophenyl .alpha.-D-glucoside, .alpha.-D-galactoside, and .beta.-D-mannoside was selectively accelerated by addn. of Me boronic acid, as compared to that of the corresponding .beta.-D-glucoside, .beta.-D-galactoside, and .alpha.-D-mannoside. In the case of p-nitrophenyl .alpha. (or .beta.)-D-glucoside, the .alpha./beta. selectivity was increased up to 110 when four molar equivalents of methyl- or phenylboronic acid were added.

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 98 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:725330 CAPLUS
DN 130:110312
TI Equilibria in the B(C6F5)3-H2O system: synthesis and crystal structures of H2O.cntdot.B(C6F5)3 and the anions [HOB(C6F5)3]- and [(F5C6)3B(.mu.-OH)B(C6F5)3]-
AU Danopoulos, Andreas A.; Galsworthy, Jane R.; Green, Malcolm L. H.; Doerr, Linda H.; Cafferkey, Sean; Hursthouse, Michael B.
CS Inorganic Chemistry Laboratory, Oxford, OX1 3QR, UK
SO Chemical Communications (Cambridge) (1998), (22), 2529-2530
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
IT 155962-44-0P 219697-05-9P 219697-07-1P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(crystal structure; prepn., equil. and structure of)
RN 155962-44-0 CAPLUS
CN Boron, aquatris(pentafluorophenyl)-, dihydrate, (T-4)- (9CI) (CA INDEX NAME)

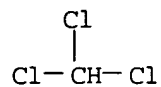


● 2 H2O

RN 219697-05-9 CAPLUS
CN Iridium(1+), [(1,2,5,6-.eta.)-1,5-cyclooctadiene] (.eta.5-2,4-cyclopentadien-1-yl)hydro-, .mu.-hydroxyhexakis(pentafluorophenyl)diborate (1-), compd. with trichloromethane (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 67-66-3
CMF C H Cl3



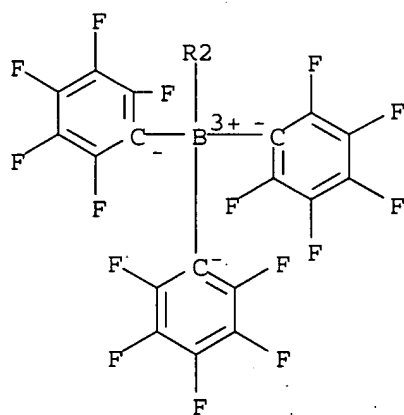
CM 2

CRN 219697-04-8
CMF C36 H B2 F30 O . C13 H18 Ir

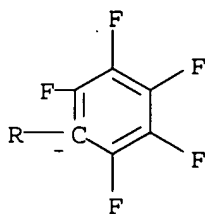
CM 3

CRN 219697-03-7
CMF C36 H B2 F30 O
CCI CCS

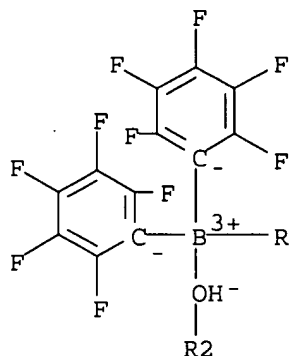
PAGE 1-A



PAGE 2-A



PAGE 3-A

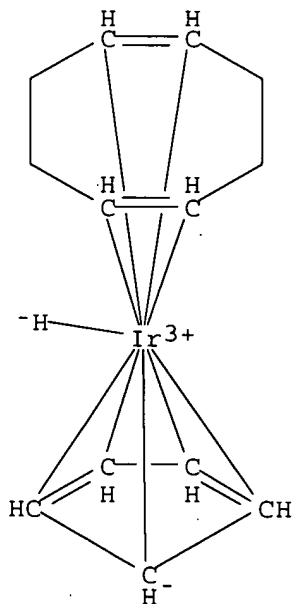


CM 4

CRN 63363-51-9

CMF C13 H18 Ir

CCI CCS



RN 219697-07-1 CAPLUS

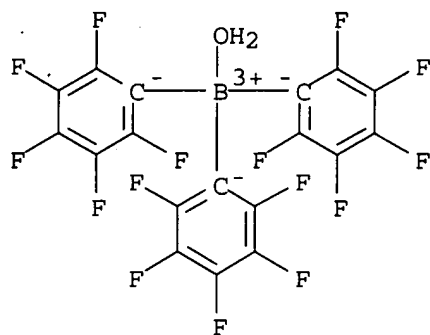
CN Potassium(1+), (6,7,9,10,17,18,20,21-octahydrodibenzo[b,k][1,4,7,10,13,16]hexaoxacyclooctadecin-.kappa.O5,.kappa.O8,.kappa.O11,.kappa.O16,.kappa.O19,.kappa.O22)-, (T-4)-hydroxytris(pentafluorophenyl)borate(1-), compd. with acetaldehyde and (T-4)-aquatris(pentafluorophenyl)boron (1:1:1), monohydrate (9CI) (CA INDEX NAME)

CM 1

CRN 155962-45-1

CMF C18 H2 B F15 O

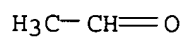
CCI CCS



CM 2

CRN 75-07-0

CMF C2 H4 O



CM 3

CRN 219697-06-0

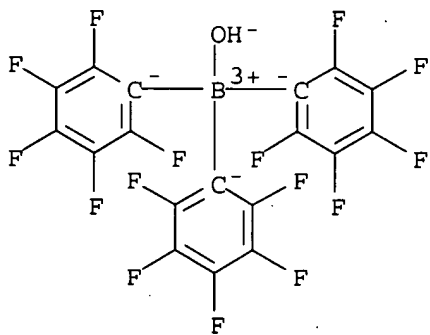
CMF C20 H24 K O6 . C18 H B F15 O

CM 4

CRN 148657-98-1

CMF C18 H B F15 O

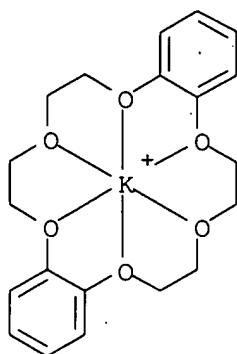
CCI CCS



CM 5

CRN 31270-24-3

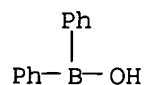
CMF C20 H24 K O6
CCI CCS



AB Addn. of water to the Lewis acid B(C₆F₅)₃ gives the neutral compd. H₂O.cntdot.B(C₆F₅)₃.cntdot.2H₂O while the reaction between B(C₆F₅)₃ and KOH-H₂O in the presence of dibenzo-18-crown-6 gives [K(dibenzo-18-crown-6)]⁺ [HOB(C₆F₅)₃]⁻ which crystallizes together with the adduct H₂O.cntdot.B(C₆F₅)₃; the new binuclear borate anion [(F₅C₆)₃B(.mu.-OH)B(C₆F₅)₃]⁻ is formed as a salt with the cation [Ir(.eta.5-C₅H₅)(C₈H₁₂)H]⁺ by addn. of water to B(C₆F₅)₃ in the presence of [Ir(.eta.5-C₅H₅)(C₈H₁₂)].

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 99 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:655551 CAPLUS
DN 130:52472
TI X-ray crystallographic study of boroxazolidones obtained from L-ornithine, L-methionine, kainic acid and 2,6-pyridinedicarboxylic acid
AU Trujillo, Jose; Hopfl, Herbert; Castillo, Dolores; Santillan, Rosa; Farfan, Norberto
CS Escuela Superior de Medicina, Seccion de Graduados y Departamento de Bioquimica, Instituto Politecnico Nacional, Mexico City, CP 11340, Mex.
SO Journal of Organometallic Chemistry (1998), 571(1), 21-29
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
IT 2622-89-1, Diphenylborinic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with kainic and pyridinedicarboxylic acid)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

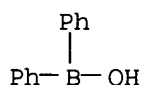


AB In the present contribution, the boroxazolidones prepd. from L-ornithine, L-methionine, kainic acid and 2,6-pyridinedicarboxylic acid have been studied by x-ray crystallog. A comparison of the structural data with

corresponding boroxazolidines, bicyclic boronates and tricyclic borates has shown that in boron complexes with a boroxazolidone ring the B-O bond is longer in comparison to boron complexes with a boroxazolidine ring. At the same time the N .fwdarw. B bond length is shorter indicating that the hydrolytic stability of the complexes with boroxazolidone rings is enhanced.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 100 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:651750 CAPLUS
DN 130:20199
TI Structure-Based Enhancement of Boronic Acid-Based Inhibitors of AmpC
.beta.-Lactamase
AU Weston, G. Scott; Blazquez, Jesus; Baquero, Fernando; Shoichet, Brian K.
CS Department of Molecular Pharmacology and Biological Chemistry,
Northwestern University Medical School, Chicago, IL, 60611, USA
SO Journal of Medicinal Chemistry (1998), 41(23), 4577-4586
CODEN: JMCMAR; ISSN: 0022-2623
PB American Chemical Society
DT Journal
LA English
IT 2622-89-1
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(structure-based enhancement of boronic acid-based inhibitors of AmpC
.beta.-lactamase)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

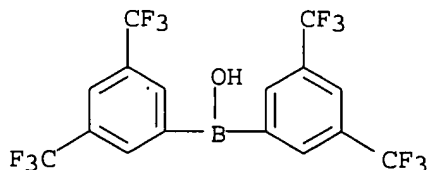


AB The expression of .beta.-lactamases is the most common form of bacterial resistance to .beta.-lactam antibiotics. To combat these enzymes, agents that inhibit (e.g. clavulanic acid) or evade (e.g. aztreonam) .beta.-lactamases have been developed. Both the .beta.-lactamase inhibitors and the .beta.-lactamase-resistant antibiotics are themselves .beta.-lactams, and bacteria have responded to these compds. by expressing variant enzymes resistant to inhibition (e.g. IRT-3) or that inactivate the .beta.-lactamase-resistant antibiotic (e.g. TEM-10). Moreover, these compds. have increased the frequency of bacteria with intrinsically resistant .beta.-lactamases (e.g. AmpC). In an effort to identify non-.beta.-lactam-based .beta.-lactamase inhibitors, we used the crystallog. structure of the m-aminophenylboronic acid-Escherichia coli AmpC .beta.-lactamase complex to suggest modifications that might enhance the affinity of boronic acid-based inhibitors for class C .beta.-lactamases. Several types of compds. were modeled into the AmpC binding site, and a total of 37 boronic acids were ultimately tested for .beta.-lactamase inhibition. The most potent of these compds., benzo[b]thiophene-2-boronic acid (36), has an affinity for E. coli AmpC of 27 nM. The wide range of functionality represented by these compds. allows for the steric and chem. "mapping" of the AmpC active site in the region of the catalytic Ser64 residue, which may be useful in subsequent

inhibitor discovery efforts. Also, the new boronic acid-based inhibitors were found to potentiate the activity of .beta.-lactam antibiotics, such as amoxicillin and ceftazidime, against bacteria expressing class C .beta.-lactamases. This suggests that boronic acid-based compds. may serve as leads for the development of therapeutic agents for the treatment of .beta.-lactam-resistant infections.

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 101 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:431179 CAPLUS
DN 129:188873
TI Design of Bronsted Acid-Assisted Chiral Lewis Acid (BLA) Catalysts for Highly Enantioselective Diels-Alder Reactions
AU Ishihara, Kazuaki; Kurihara, Hideki; Matsumoto, Masayuki; Yamamoto, Hisashi
CS Research Center for Advanced Waste and Emission Management (ResCWE), Nagoya University, Nagoya, 464-8603, Japan
SO Journal of the American Chemical Society (1998), 120(28), 6920-6930
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 129:188873
IT 211636-23-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(Bronsted acid-assisted chiral Lewis acid catalysts for highly enantioselective Diels-Alder reactions)
RN 211636-23-6 CAPLUS
CN Borinic acid, bis[3,5-bis(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

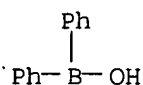


AB Bronsted acid-assisted chiral Lewis acids (BLA) were highly effective as chiral catalysts for the enantioselective Diels-Alder reaction of both .alpha.-substituted and .alpha.-unsubstituted .alpha.,.beta.-enals with various dienes. Hydroxy groups in optically active binaphthol derivs. and boron reagents with electron-withdrawing substituents were used as Bronsted acids and Lewis acids, resp. Intramol. Bronsted acids in a chiral BLA catalyst played an important role in accelerating the rate of Diels-Alder reactions and in producing a high level of enantioselectivity. In particular, excellent enantioselectivity was achieved due to intramol. hydrogen bonding and attractive .pi.-.pi. donor-acceptor interaction in the transition-state assembly by hydroxy arom. groups in a chiral BLA catalyst.

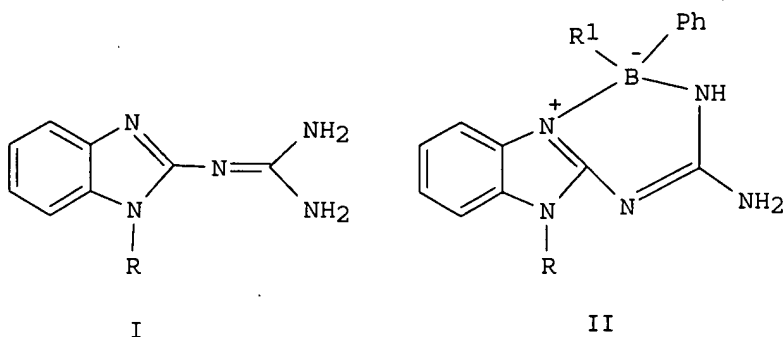
RE.CNT 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 102 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:369863 CAPLUS
DN 129:136213

TI Boron heterocycles derived from 2-guanidinobenzimidazole
 AU Andrade-Lopez, Noemi; Cartas-Rosado, Rocio; Garcia-Baez, Efren; Contreras, Rosalinda; Tlahuext, Hugo
 CS Departamento de Quimica, Centro de Investigacion y de Estudios Avanzados del IPN, Mexico D.F., 07000, Mex.
 SO Heteroatom Chemistry (1998), 9(4), 399-409
 CODEN: HETCE8; ISSN: 1042-7163
 PB John Wiley & Sons, Inc.
 DT Journal
 LA English
 OS CASREACT 129:136213
 IT 2622-89-1, Diphenylborinic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with guanidinobenzimidazoles)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI

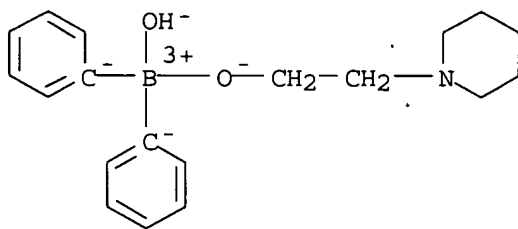


AB The syntheses and structure detns. of a series of boron heterocycles derived from 2-guanidinobenzimidazole I (R = H, Me) are reported. Structures of new compds., 2-guanidino-1-methyl-benzimidazole (I; R = Me), diphenyl (2-guanidinobenzimidazole-N,N')borates II (R = H, Me, R1 = Ph), (hydroxy) (phenyl) (2-guanidinobenzimidazole-N,N')borates (R = H, Me, R1 = OH), (alkoxy) (phenyl) (2-guanidinobenzimidazole-N,N')borates II (R = H, R1 = MeO, Me2CHO, AcO; R = Me, R1 = MeO), dihydroxy(2-guanidino-1-methyl-benzimidazole-N,N')borate, difluoro(2-guanidinobenzimidazole-N,N')borate, dihydroxy(2-guanidino-1-benzimidazole-N,N')borate potassium salt (III), diphenyl (2-guanidinium-10H-benzimidazole-N,N')borate chloride, (methoxy) (phenyl) (2-guanidinium-10H-benzimidazole-N,N')borate chloride (IV), and N10-borane-(diphenyl-2-guanidinobenzimidazole-N,N')borate, were detd. based on 1H, 13C, 15N, and 11B spectroscopy. The x-ray diffraction structures of II (R = H, Me, R1 = Ph, OH; R = H, R1 = MeO), III, and IV were obtained. The formation of N3-borane adducts derived from I, and the dihydrido-(2-guanidinobenzimidazole-N,N')borate and dihydrido-(2-guanidino-1-methyl-benzimidazole-N,N')borate were obsd. by 11B NMR. The results

show that 2-guanidinobenzimidazole gives stable borate heterocycles with a delocalized .pi. electronic system. A dynamic exchange of N-H protons was obsd. with preferred protonation at N-12. The new heterocycles are protonated at N-10 by acidic substances to give pyridinium-type heterocycles or can lose a proton to give iminium salts.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 103 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:244714 CAPLUS
DN 129:27974
TI Study of cyclic borinates obtained from piperidine- and piperazine alcohols by spectroscopic methods and X-ray crystallography
AU Hopfl, Herbert; Farfan, Norberto; Castillo, Dolores; Santillan, Rosa; Gutierrez, Atilano; Daran, Jean-Claude
CS Centro de Investigaciones Quimicas, Universidad Autonoma del Estado de Morelos, Cuernavaca, C.P. 62210, Mex.
SO Journal of Organometallic Chemistry (1998), 553(1-2), 221-239
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
IT 207730-28-7P 207730-30-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and crystal structure of)
RN 207730-28-7 CAPLUS
CN Borate(1-), hydroxydiphenyl(1-piperidineethanolato-.kappa.O1)-, hydrogen, monohydrate, (T-4)- (9CI) (CA INDEX NAME)



● H⁺

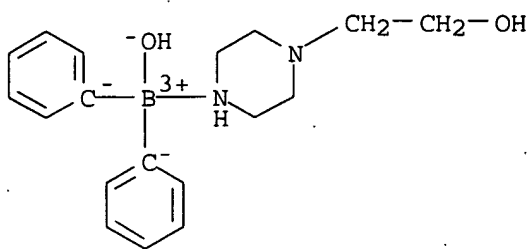
● H₂O

RN 207730-30-1 CAPLUS
CN Boron, hydroxydiphenyl(1-piperazineethanol-.kappa.N4)-, (T-4)-, compd. with benzene (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 207730-25-4
CMF C18 H25 B N2 O2

CCI CCS



CM 2

CRN 71-43-2

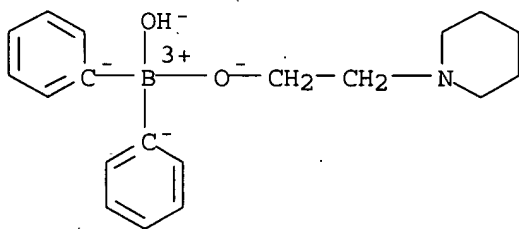
CMF C6 H6



IT 207730-23-2P 207730-25-4P

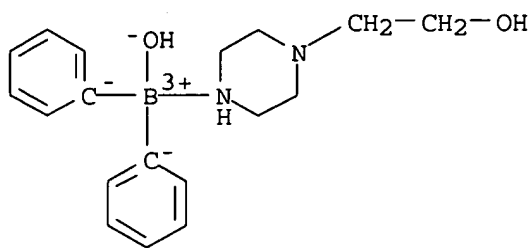
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and mol. structure of)

RN 207730-23-2 CAPLUS

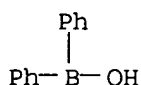
CN Borate(1-), hydroxydiphenyl(1-piperidineethanolato-.kappa.O1)-, hydrogen,
(T-4) - (9CI) (CA INDEX NAME)● H⁺

RN 207730-25-4 CAPLUS

CN Boron, hydroxydiphenyl(1-piperazineethanol-.kappa.N4)-, (T-4) - (9CI) (CA
INDEX NAME)



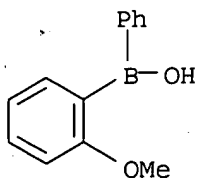
IT 2622-89-1, Diphenylborinic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of cyclic borinates obtained from piperidine- and piperazine
 alcs. by spectroscopic methods and x-ray crystallog.)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB A series of eleven new 2-aminoethyl- and 3-aminopropyl borinate derivs.
 with a coordinative N .fwdarw. B bond has been synthesized by condensation
 reactions between piperidine- as well as piperazine alcs. and
 diphenylborinic acid. The products obtained are analogous to N-spiro
 compds. and bicyclic systems and have been characterized by spectroscopic
 methods and x-ray crystallog. Thereby the N .fwdarw. B bond and the
 geometry of this new heterocyclic systems have been studied in more
 detail.

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 104 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1998:225183 CAPLUS
 DN 128:316546
 TI Boron(III), zinc(II), and cadmium(II) bis-chelate compounds based on
 tridentate pyrrolalldimines: structure and stereodynamics
 AU Minkin, V. I.; Korobov, M. S.; Nivorozhkin, L. E.; Kompan, O. E.;
 Borodkin, G. S.; Olekhnovich, R. Ya.
 CS Research Institute of Physical and Organic Chemistry, Rostov State
 University, Rostov-on-Don, Russia
 SO Russian Journal of Coordination Chemistry (Translation of
 Koordinatsionnaya Khimiya) (1998), 24(3), 152-161
 CODEN: RJCCEY; ISSN: 1070-3284
 PB MAIK Nauka/Interperiodica Publishing
 DT Journal
 LA English
 IT 205754-17-2, Phenyl-o-anisylborinic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (for prepn. of boron formylpyrrolalldiminato Ph methoxyphenyl complexes)
 RN 205754-17-2 CAPLUS
 CN Borinic acid, (2-methoxyphenyl)phenyl- (9CI) (CA INDEX NAME)



AB The dynamic ^1H , ^{13}C , and ^{15}N NMR spectroscopic method was used to study the kinetics and mechanism of stereodynamic transformations of the 2,5-diformylpyrrolemono- and 2,5-diformylpyrroledi(N-alkylimine)-based $\text{Zn}(\text{II})$ and $\text{Cd}(\text{II})$ bis-chelate compds. and structurally similar 3,3-diaryl-1,3,2-diazaboroles in solns. X-ray diffraction anal. was performed for bis[5-cyclohexyliminoformylpyrrole-2-(N-cyclohexylaldiminato)]zinc(II) and bis[5-formylpyrrole-2-(N-isopropylaldiminato)]zinc(II). The trigonal-bipyramidal configuration of the coordination core is completed as a result of intramol. coordination by migration of the zinc between two nonequivalent sites. The tetrahedral configuration of the central metal atom in the former complex and other analogous zinc(II) and cadmium(II) complexes is found to undergo inversion through the intramol. associative mechanism.

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 105 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:198215 CAPLUS

DN 128:181482

TI Zirconocenes as Initiators for Carbocationic Isobutene Homo- and Copolymerizations

AU Carr, Andrew G.; Dawson, David M.; Bochmann, Manfred

CS School of Chemistry, University of Leeds, Leeds, LS2 9JT, UK

SO Macromolecules (1998), 31(7), 2035-2040

CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

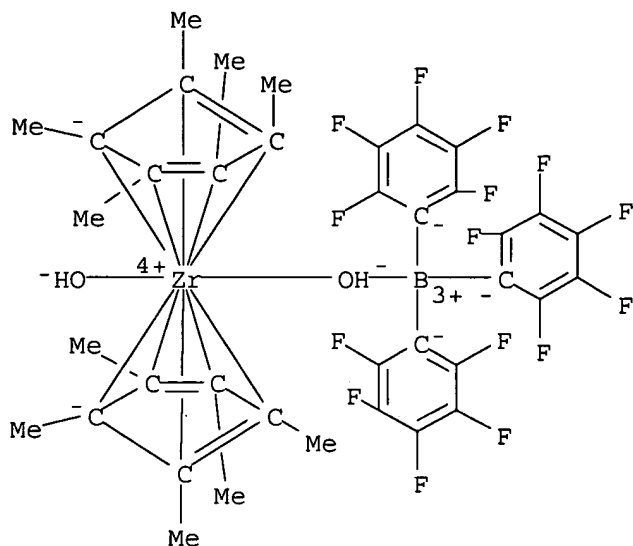
LA English

IT 203399-46-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of)

RN 203399-46-6 CAPLUS

CN Zirconium, hydroxy[hydroxytris(pentafluorophenyl)borato(1-)-
.kappa.O]bis[(1,2,3,4,5-eta.)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]- (9CI) (CA INDEX NAME)



AB The zirconocene complexes Cp_2ZrMe_2 and Cp^*ZrMe_2 activated with $\text{B}(\text{C}_6\text{F}_5)_3$ initiate the carbocationic polymn. of isobutene and isobutene-isoprene copolymns. to IIR rubbers at temps. as high as -30°C . Unlike conventional metal halide initiators, these metallocene-based initiator systems produce both homo- and copolymers of broadly similar mol. wts. Copolymers prepd. in the presence of .apprx.2.mol% isoprene show a diene incorporation rate of 1.4-1.7%, with the typical 1,4-trans structure. Comparison of the effectiveness of zirconocene dialkyls with that of the metallocene hydrolysis products $\text{Cp}^*\text{Zr}(\text{OH})_2$ and $(\text{Cp}_2\text{ZrMe})_2(\mu\text{-O})$ in the presence of $\text{B}(\text{C}_6\text{F}_5)_3$ suggests that initiation by traces of protons is less efficient than initiation by cationic metallocene alkyl species, while oxo-bridged complexes $(\text{Cp}'_2\text{ZrMe})_2(\mu\text{-O})/\text{B}(\text{C}_6\text{F}_5)_3$ ($\text{Cp}' = \text{C}_5\text{H}_5$ or $\text{C}_5\text{H}_4\text{SiMe}_3$) are inactive.

L4 ANSWER 106 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1998:184796 CAPLUS

DN 128:180515

TI Preparation of fungicidal cyclic boron compounds

IN Whittingham, William Guy; Lawson, Kevin Robert; Lyon, Ruth Anne

PA Zeneca Limited, UK

SO Brit. UK Pat. Appl., 28 pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2314080	A1	19971217	GB 1997-10129.	19970519
	GB 2314080	B2	19980422		
				GB 1996-12217	19960612

OS MARPAT 128:180515

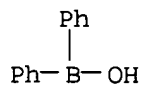
IT 2622-89-1P, Diphenylborinic acid

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

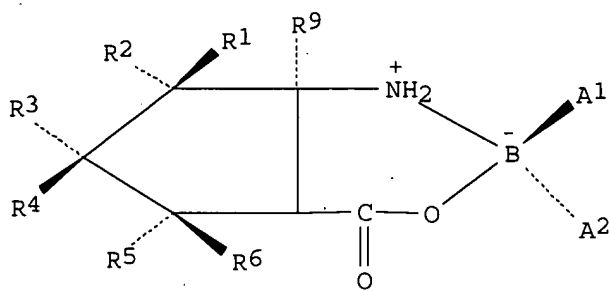
(prepn. and reaction with aminocyclopentanecarboxylic acid)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI



I

AB The prepn. of title compds. I (A1, A2 = independently, alkyl, Ph, furyl, thienyl each optionally substituted by halogen, C1-4 alkyl, C1-4 alkoxy, C1-4 alkylthio, C1-4 haloalkyl, C1-4 haloalkoxy, C1-4 haloalkylthio; M = O, SO₂, CR₃R₄; R1, R2, R3, R4, R5, R6 = independently H, halo, OH, C1-4 alkyl, C1-4 haloalkyl, benzyl (optionally substituted by halogen, C1-4 alkyl, C1-4 haloalkyl); R1R2 and R3R4 may together form :O, :CR₇R₈; R2R3 or R4R5 may together form a double bond; R2R3, R1R4, R3R5, and R4R6 may join together to form a methylene bridge; R7, R8 = independently H, halo, C1-4 alkyl; R9 = H, halo), useful as plant fungicides is described. Thus, reaction of diphenylborinic anhydride with cis-2-aminocyclopentanecarboxylic acid in Et₂O gave title compd., 3,3-diphenyl-5-oxo-2-azonia-3-borata-4-oxabicyclo[4.3.0]nonane. The fungicidal activity of the compds. prepd. is given.

L4 ANSWER 107 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:809011 CAPLUS

DN 128:88939

TI Syntheses and characterization of amino(pentafluorophenyl)boranes. Crystal structure of [(Me₃Si)₂NB(C₆F₅)₂]

AU Galsworthy, Jane R.; Green, Malcolm L. H.; Williams, V. Clifford; Chernega, Alex N.

CS Inorganic Chemistry Laboratory, Oxford, OX1 3QR, UK

SO Polyhedron (1997), Volume Date 1998, 17(1), 119-124

CODEN: PLYHDE; ISSN: 0277-5387

PB Elsevier Science Ltd.

DT Journal

LA English

IT 201163-54-4, Tetrabutylammonium fluorohydroxybis(pentafluorophenyl)borate

RL: RCT (Reactant); RACT (Reactant or reagent)

(syntheses and characterization of amino(pentafluorophenyl)boranes)

RN 201163-54-4 CAPLUS

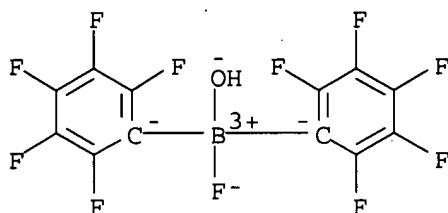
CN 1-Butanaminium, N,N,N-tributyl-, (T-4)-fluorohydroxybis(pentafluorophenyl) borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 201163-53-3

CMF C12 H B F11 O

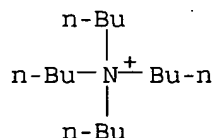
CCI CCS



CM 2

CRN 10549-76-5

CMF C16 H36 N



AB The chloroborane, ClB(C6F5)2, was studied as a useful synthon for the prepn. of amino(pentafluorophenyl)boranes. Compds. [(Me3Si)2NB(C6F5)2] (1), [(Me3Si)(H)NB(C6F5)2] and [HN{B(C6F5)2}2], were synthesized and 1 was characterized by x-ray crystallog.

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 108 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:649938 CAPLUS

DN 127:318991

TI Dynamic NMR and X-ray diffraction study of (N-B)-diphenyl(2-aminoethoxy)borane derivatives of ephedrine and pseudoephedrine

AU Hoepfl, Herbert; Farfan, Norberto; Castillo, Dolores; Santillan, Rosa; Contreras, Rosalinda; Martinez-Martinez, Francisco Javier; Galvan, Marcelo; Alvarez, Rodolfo; Fernandez, Lilia; Halut, Sabine; Daran, Jean-Claude

CS Departamento de Quimica, Centro de Investigacion y de Estudios Avanzados del IPN, Apdo. Postal 14-740, 07000, Mexico, D.F., Mex.

SO Journal of Organometallic Chemistry (1997), 544(2), 175-188
CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier

DT Journal

LA English

OS CASREACT 127:318991

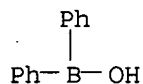
IT 2622-89-1, Diphenylborinic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

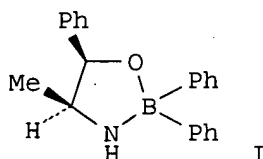
(prepn., crystal structure and dynamic NMR of (N-B)-diphenyl(2-aminoethoxy)borane derivs. of ephedrine and pseudoephedrine)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI



AB The prepn. and characterization of various (N-B)-diphenyl-(2-aminoethoxy)boranes (e.g. I) derived from ephedrine and pseudoephedrine derivs. are reported: (N-B)-diphenyl(1-(R)-phenyl-2-(S)-methyl-2-aminoethoxy)borane (1b), (N-B)-diphenyl(1-(R)-phenyl-2-(R)-methyl-2-aminoethoxy)borane (2b), (N-B)-diphenyl[N-(R)-methyl-(1-(R)-phenyl-2-(S)-methyl-2-aminoethoxy)]borane (3b-trans), (N-B)-diphenyl[N-(S)-methyl-(1-(R)-phenyl-2-(S)-methyl-2-aminoethoxy)]borane (3b-cis), (N-B)-diphenyl[N-(S)-methyl-(1-(R)-phenyl-2-(R)-methyl-2-aminoethoxy)]borane (4b-trans), (N-B)-diphenyl[N,N-dimethyl-(1-(R)-phenyl-2-(S)-methyl-2-aminoethoxy)]borane (5b) and (N-B)-diphenyl[N,N-dimethyl-(1-(R)-phenyl-2-(R)-methyl-2-aminoethoxy)]borane (6b). The five membered N.fwdarw.B cyclic structures 1b-6b were assigned based on 1H-, 13C-, 11B- and 15N-NMR data and all compds. except for 3b-trans were subjected to x-ray diffraction anal. showing N.fwdarw.B bond lengths of 1.66(2) and 1.64(2) .ANG. for 1b, 1.657(9) and 1.664(9) .ANG. for 2b, 1.68(2) .ANG. for 3b-cis, 1.66(1) .ANG. for 4b-trans, 1.744(8) .ANG. for 5b and 1.74(1) .ANG. for 6b. The study of the intramol. N.fwdarw.B coordination by dynamic NMR spectroscopy afforded .DELTA.G.dbldag. values of 67.9, 70.9, 64.8, 68.2, 49.7 and 52.7 kJ mol⁻¹ for the dissocn. of the N.fwdarw.B bond in compds. 1b-6b resp. Steric interactions between the substituents at the (2-aminoethoxy)borane ring det. the stability of the N.fwdarw.B bond as well as the N configuration. Theor. calcns. of the electrostatic charges for the B and N atoms in 1b, 2b, 3b-cis, 3b-trans, 4b-cis, 5b and 6b show that the increase of pos. charge on the N atom causes a shift to lower frequencies in the 15N NMR spectra.

L4 ANSWER 109 OF 309 .CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:576714 CAPLUS

DN 127:209854

TI Treatment of wastewater for removal of organoboron compounds

IN Reimer, Ronald Anthony

PA E.I. Du Pont De Nemours and Co., USA

SO PCT Int. Appl., 11 pp.

CODEN: PIXXD2

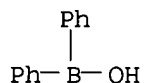
DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9730759	A1	19970828	WO 1997-US2255	19970212
W: CA, CN, JP, SG				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5709841	A	19980120	US 1996-606140 A	19960223
CA 2244948	AA	19970828	US 1996-606140	19960223
CA 2244948	C	20010821	CA 1997-2244948	19970212
EP 881924	A1	19981209	US 1996-606140 A	19960223
EP 881924	B1	20010523	EP 1997-905939	19970212
R: DE, ES, FR, GB, NL				
CN 1211931	A	19990324	US 1996-606140 A	19960223
CN 1103613	B	20030326	WO 1997-US2255 W	19970212
JP 11504262	T2	19990420	CN 1997-192479	19970212
JP 3285878	B2	20020527	US 1996-606140 A	19960223
ES 2158500	T3	20010901	JP 1997-530224	19970212
			US 1996-606140 A	19960223
			WO 1997-US2255 W	19970212
			ES 1997-905939	19970212
			US 1996-606140 A	19960223

IT 2622-89-1, Diphenylborinic acid
 RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC (Process)
 (treatment of wastewater for removal of organoboron compds.)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB An aq. soln. of organoboron compds. is hydrolyzed to boric acid and the corresponding org. compd. by treatment at >150.degree. and a pressure sufficient to prevent substantial evapn., and at pH of 5-9.

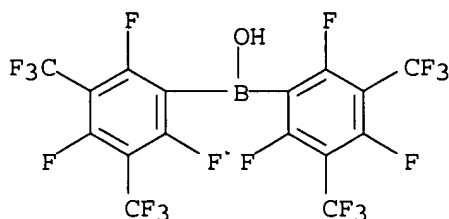
L4 ANSWER 110 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1997:558880 CAPLUS
 DN 127:176003
 TI Bis(pentafluorophenyl)borinic Acid as a Highly Effective Oppenauer Oxidation Catalyst for Allylic and Benzylic Alcohols
 AU Ishihara, Kazuaki; Kurihara, Hideki; Yamamoto, Hisashi
 CS Graduate School of Engineering, Nagoya University, Nagoya, 464-01, Japan
 SO Journal of Organic Chemistry (1997), 62(17), 5664-5665
 CODEN: JOCEAH; ISSN: 0022-3263
 PB American Chemical Society
 DT Journal
 LA English
 OS CASREACT 127:176003

IT 194089-33-3 194089-34-4

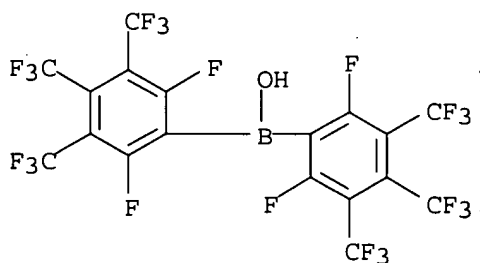
RL: CAT (Catalyst use); USES (Uses)

(bis(pentafluorophenyl)borinic acid effective Oppenauer oxidn. catalyst for allylic and benzylic alcs.)

RN 194089-33-3 CAPLUS

CN Borinic acid, bis[2,4,6-trifluoro-3,5-bis(trifluoromethyl)phenyl]- (9CI)
(CA INDEX NAME)

RN 194089-34-4 CAPLUS

CN Borinic acid, bis[2,6-difluoro-3,4,5-tris(trifluoromethyl)phenyl]- (9CI)
(CA INDEX NAME)

IT 2118-02-7

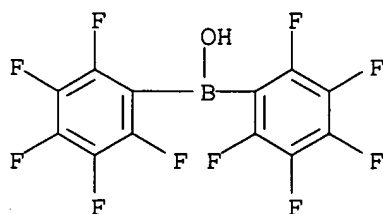
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process);

RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(bis(pentafluorophenyl)borinic acid effective Oppenauer oxidn. catalyst for allylic and benzylic alcs.)

RN 2118-02-7 CAPLUS

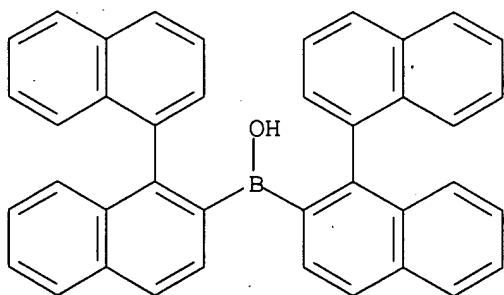
CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



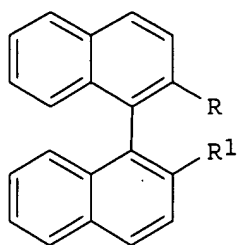
AB The Oppenauer (OPP) oxidn. is one of the most useful method for transforming from secondary alcs. into ketones. In general, however, it is difficult to oxidize primary alcs. to the corresponding aldehydes by the OPP method. We report here that bis(pentafluorophenyl)borinic acid

(1) is a suitable OPP catalyst for primary and secondary allylic and benzylic alcs. The Lewis acidity of 1 is stronger than pentafluorophenylboronic acid. Catalysis was carried out using 1 to 2 mol% of 1 loading in the reaction of allylic alcs. in the presence of 3 equiv of pivalaldehyde as a hydride acceptor and 1 equiv of magnesium sulfate as a drying reagent at ambient temp. Mechanistically, the present reaction is similar to the ordinary OPP oxidns. catalyzed by metal alkoxides, but, in contrast to the basic nature of these catalysts, the driving force of the oxidn. in this case is the activation of pivalaldehyde by the strong Lewis acid 1.

L4 ANSWER 111 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1997:429061 CAPLUS
DN 127:176456
TI Synthesis and structure of 2,2'-boryl-, germyl-, silyl-, and stannyl-substituted 1,1'-binaphthyl systems
AU Schilling, Birgit; Kaiser, Volker; Kaufmann, Dieter E.
CS Inst. Organische Chemie, Techn. Univ. Clausthal, Clausthal-Zellerfeld, D-38678, Germany
SO Chemische Berichte/Recueil (1997), 130(7), 923-932
CODEN: CHBRFW
PB Wiley-VCH
DT Journal
LA English
OS CASREACT 127:176456
IT **194038-55-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and structure of boryl-, germyl-, silyl-, and stannylbinaphthalenes)
RN 194038-55-6 CAPLUS
CN Borinic acid, bis([1,1'-binaphthalen]-2-yl)-, stereoisomer (9CI) (CA INDEX NAME)



GI



I

AB A no. of Lewis acid binaphthyl systems, substituted in 2- or 2,2'-position, were synthesized by lithiation of 2,2'-dibromo-1,1'-binaphthyl, I (R, R1 = Br) followed by addn. of various electrophiles. Stepwise lithiation and subsequent borylation with B(OMe)₃ leads to the bromo boronate I [R = B(OH)₂, R1 = Br], which is stabilized by esterification with pinacol. By increasing the reaction mixt. to 2 equiv BuLi and 2 equiv B(OMe)₃ the path to the binaphthyl monoboronate I [R = BR₂, R1 = H, R22 = O(CMe₂)₂O] is opened up. A further increase in the quantity of electrophile also leads to the binaphthyl bisboronates I [R, R1 = BR₂; R22 = O(CMe₂)₂O]. The 2,2'-disubstituted silyl, germyl, and stannyl derivs. I (R = R1 = SiMe₃, GeMe₃, SnMe₃) are accessible in good yields. Treatment with B halides leads exclusively to Me/halo exchange, given the bidentate Lewis acids I (R = R1 = SiBr₃, GeCl₃, SnCl₃), the former of which can be bridged by O. Only in the case of bis(tributylstannyl)binaphthyl I (R, R1 = SnBu₃), ipso substitution occurs in the presence of BCl₃, giving the bis(dichloroboryl)binaphthyl I (R, R1 = BCl₂) which can then be hydrolyzed to the diboronate I [R, R1 = B(OH)₂]. The structures of the majority of compds. were studied by x-ray diffraction. In case of I (R = R1 = SiMe₃, GeMe₃, SnMe₃), the naphthyl groups are oriented perpendicular to each other. Intra- and intermol. interactions are dominated by this binaphthyl system. In the case of the O-bridged compds. I [RR1 = SiBr₂OSiBr₂, GeCl₂OGeCl₂], the angle between the naphthyl planes decreases to apprx.70.degree.. This also affects the packing of the mol. In this instance the orientation of 2 naphthyl groups in neighboring mols. is nearly parallel. The structure of the diboronates is dominated by intra- and intermol. H bonding.

L4 ANSWER 112 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:381760 CAPLUS

DN 127:121799

TI Synthesis and structural characterization of some novel metalloboroxides bearing boron-bound mesityl and fluoromesityl substituents: the molecular structure of the first metallaboroxane complex

AU Gibson, Vernon C.; Redshaw, Carl; Clegg, William; Elsegood, Mark R. J.

CS Dep. Chem., Imperial Coll., South Kensington, London, SW7 2AY, UK

SO Polyhedron (1997), 16(15), 2637-2641

CODEN: PLYHDE; ISSN: 0277-5387

PB Elsevier

DT Journal

LA English

IT 192823-38-4P

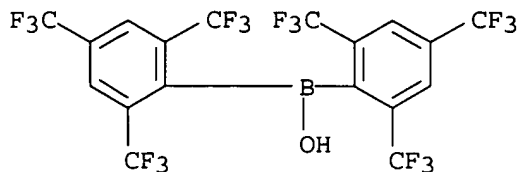
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and metalation reaction with lithium and molybdenum)

RN 192823-38-4 CAPLUS

CN Borinic acid, bis[2,4,6-tris(trifluoromethyl)phenyl]- (9CI) (CA INDEX

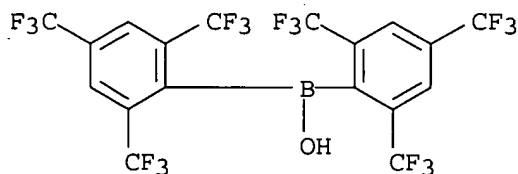
NAME)



IT 192823-43-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with copper dibromide)

RN 192823-43-1 CAPLUS

CN Borinic acid, bis[2,4,6-tris(trifluoromethyl)phenyl]-, lithium salt (9CI)
(CA INDEX NAME)

● Li

AB Treatment of the new boronous acid HOB(fmes)_2 (1) (fmes = 2,4,6-(CF_3) $_3\text{C}_6\text{H}_2$) with BuLi in Et₂O/pentane affords, after work-up, the dimer $[\text{Li}(\text{THF})\text{OB(fmes)}_2]_2$ (2). Reaction of $[\text{Mo}_2(\text{NMe}_2)_6]$ with two equiv. of 1 in toluene gives the amido-boroxide complex $\text{Mo}_2(\text{NMe}_2)_4[\text{OB(fmes)}_2]_2$ (3). Treatment of CuBr₂ with LiOB(mes)_2 (mes = 2,4,6-Me $_3\text{C}_6\text{H}_2$) in THF affords after work-up and addn. of excess pyridine the monomeric Cu(II) boroxide, $\{\text{Cu}[\text{O}_3\text{B}_2(\text{mes})_2]_2[\text{Li}(\text{MeCN})(\text{C}_5\text{H}_5\text{N})]_2\}$ (4), contg. the new ligand mesB(O)OB(O)mes, as a result of loss of mesitylene and formation of a B-O-B bond. 2 And 4 were structurally characterized by x-ray crystallog.

L4 ANSWER 113 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:198358 CAPLUS

DN 126:293511

TI Competitive transport of reducing sugars through a lipophilic membrane facilitated by aryl boron acids

AU Karpa, Michael J.; Duggan, Peter J.; Griffin, Gregory J.; Freudigmann, Stacy J.

CS Sch. Mol. Sciences, James Cook Univ. North Queensland, Townsville, 4811, Australia

SO Tetrahedron (1997), 53(10), 3669-3678

CODEN: TETRAB; ISSN: 0040-4020

PB Elsevier

DT Journal

LA English

IT 2622-89-1

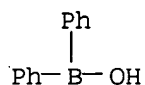
RL: RCT (Reactant); RACT (Reactant or reagent)

(competitive transport of reducing sugars through a lipophilic membrane

facilitated by aryl boron acids)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The extn. and competitive transport of fructose, glucose, and sucrose through dichloroethane facilitated by combinations of aryl boron acids and tetraalkyl ammonium salts is described. Although extn. abilities of the boron acids are comparable, there are distinct differences in their sugar transport properties. The aq. soly. of the aryl boron acid is apparently a crit. controlling factor of sugar flux. A combination of PBA and aliquat 336 in the membrane effectively separates fructose from an equimolar mixt. of fructose, glucose and sucrose, despite extn. expts. displaying comparable extn. of glucose and fructose.

L4 ANSWER 114 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:84568 CAPLUS

DN 126:86119

TI Solutions containing triphenylborane-octadecylamine complex as antifouling agents for fish nets

IN Usu, Toshihiro; Shimada, Akira; Shibuya, Keiji; Katsuyama, Kazuki

PA Yoshitomi Pharmaceutical, Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08295609	A2	19961112	JP 1996-81861	19960227
				JP 1995-37968	19950227

PATENT FAMILY INFORMATION:

FAN 1997:48814

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08295608	A2	19961112	JP 1995-305520	19951124
	JP 2978749	B2	19991115	JP 1994-289483	19941124
				JP 1995-37968	19950227

OS MARPAT 126:86119

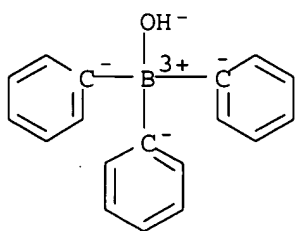
IT **12113-07-4**

RL: RCT (Reactant); RACT (Reactant or reagent)

(solns. contg. triphenylborane-octadecylamine complex as antifouling agents for fish nets)

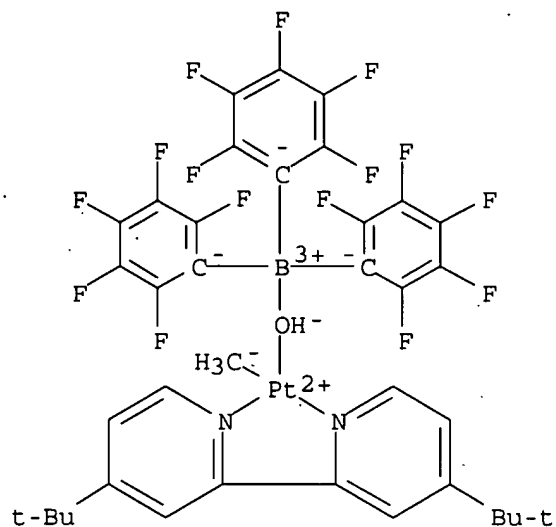
RN 12113-07-4 CAPLUS

CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



● Na⁺

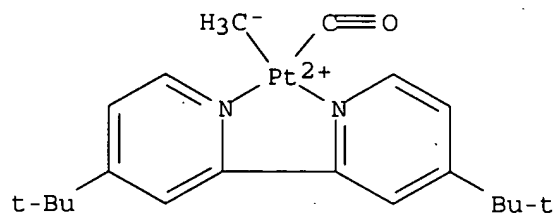
- AB Antifouling agents for fish nets comprise solns. consisting of Ph₃B.NH₂R₁ (I; R₁ = octadecyl) and org. solvents. Octadecylamine was treated with Ph₃B.NaOH at 70.degree. for 3 h to give 90% I. I 10, LV 50 (polybutene) 7.5, yellow vaseline 7.5, acrylic resin 20, and xylene 55% were mixed to prep. an antifouling agent, which was applied to a Tetoron fish net to show no attachment of hydrozoan after storage in seawater for 4 mo.
- L4 ANSWER 115 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1997:76760 CAPLUS
 DN 126:89553
 TI Electrophilic Methylplatinum Complexes: First Structure of a Hydroxytris(pentafluorophenyl)borate Complex
 AU Hill, Geoffrey S.; Manojlovic-Muir, Ljubica; Muir, Kenneth W.; Puddephatt, Richard J.
 CS Departments of Chemistry, University of Western Ontario, London, ON, N6A 5B7, Can.
 SO Organometallics (1997), 16(4), 525-530
 CODEN: ORGND7; ISSN: 0276-7333
 PB American Chemical Society
 DT Journal
 LA English
 OS CASREACT 126:89553
 IT **185555-10-6P**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (prepn. and crystal structure of)
 RN 185555-10-6 CAPLUS
 CN Platinum, [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine-.kappa.N1,.kappa.N1'] [hydroxytris(pentafluorophenyl)borato(1-)-.kappa.O]methyl-, (SP-4-2)- (9CI) (CA INDEX NAME)



IT 185555-07-1P 185555-08-2P 185555-09-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 185555-07-1 CAPLUS
 CN Platinum(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine-
 .kappa.N1,.kappa.N1']carbonylmethyl-, (SP-4-3)-, (T-4)-
 hydroxytris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

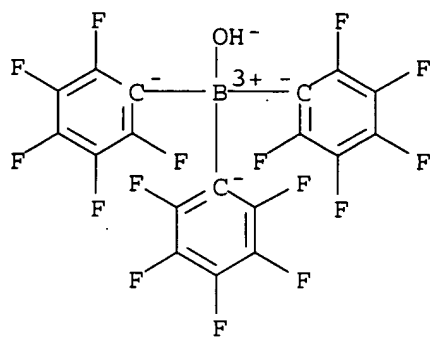
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CRN 177593-40-7
 CMF C20 H27 N2 O Pt
 CCI CCS



CM 2

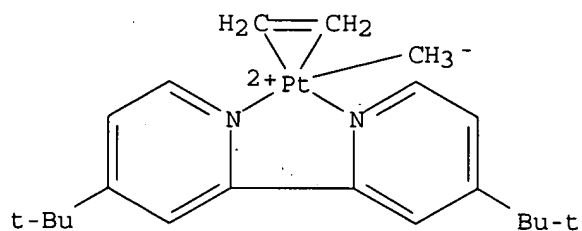
CRN 148657-98-1
 CMF C18 H B F15 O
 CCI CCS



RN 185555-08-2 CAPLUS
 CN Platinum(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine-
 .kappa.N1,.kappa.N1'](.eta.2-ethene)methyl-, (T-4)-
 hydroxytris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

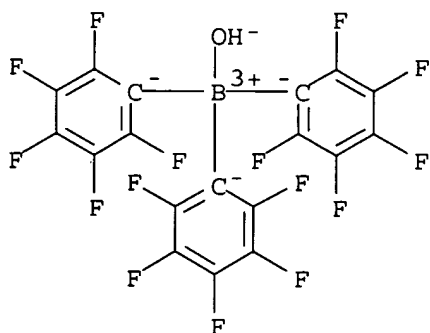
CM 1

CRN 177593-43-0
 CMF C21 H31 N2 Pt
 CCI CCS



CM 2

CRN 148657-98-1
 CMF C18 H B F15 O
 CCI CCS



RN 185555-09-3 CAPLUS

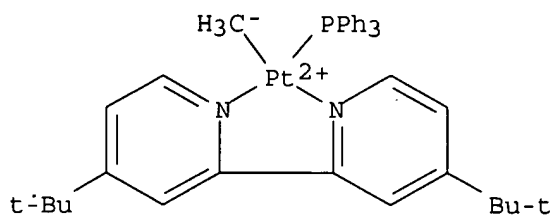
CN Platinum(1+), [4,4'-bis(1,1-dimethylethyl)-2,2'-bipyridine-
 .kappa.N1,.kappa.N1']methyl(triphenylphosphine)-, (SP-4-2)-,
 (T-4)-hydroxytris(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 185555-05-9

CMF C37 H42 N2 P Pt

CCI CCS

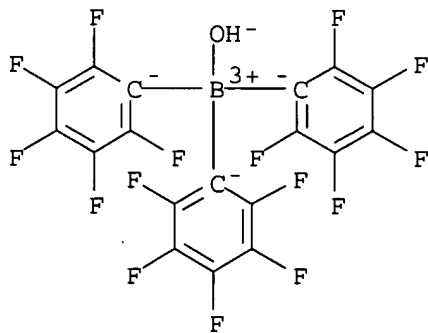


CM 2

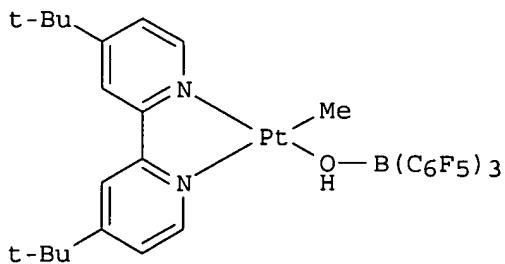
CRN 148657-98-1

CMF C18 H B F15 O

CCI CCS



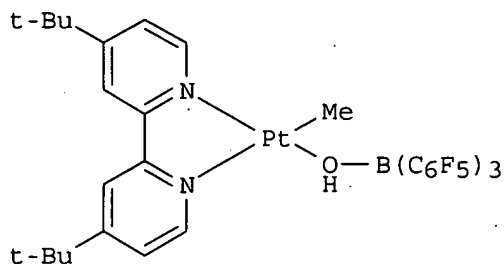
GI



I

Patel

9/24/2003>



AB Treatment of $[\text{PtMe}_2(\text{t-Bu}_2\text{bpy})]$ ($\text{t-Bu}_2\text{bpy}$ = 4,4'-di-tert-butyl-2,2'-bipyridine) with $\text{B}(\text{C}_6\text{F}_5)_3$ in the presence of the ligand L gives, under anhyd. conditions, $[\text{PtMeL}(\text{t-Bu}_2\text{bpy})][\text{MeB}(\text{C}_6\text{F}_5)_3]$ {L = Co (1a), C_2H_4 (2a), PPh_3 (3a)}. Similar reactions performed in the presence of H_2O afford $[\text{PtMeL}(\text{t-Bu}_2\text{bpy})][\text{HOB}(\text{C}_6\text{F}_5)_3]$ {L = CO (1b), C_2H_4 (2b), PPh_3 (3b)}. In the absence of L, the treatment of $[\text{PtMe}_2(\text{t-Bu}_2\text{bpy})]$ with $\text{B}(\text{C}_6\text{F}_5)_3$ and H_2O gives $[\text{Pt}\{\text{HOB}(\text{C}_6\text{F}_5)_3\}\text{Me}(\text{t-Bu}_2\text{bpy})]$ (4) (shown as structure I), the 1st published example of a hydroxytris(pentafluorophenyl)borate complex. All of the complexes are fully characterized by NMR and IR spectroscopy and, in the case of complex 4, by an x-ray anal. which confirms the attachment of the $[\text{HOB}(\text{C}_6\text{F}_5)_3]$ -ligand to the square-planar Pt atom via a Pt-O bond of 2.062(2) Å. Probably in the presence of H_2O , $\text{B}(\text{C}_6\text{F}_5)_3$ forms an adduct $[\text{H}_2\text{OB}(\text{C}_6\text{F}_5)_3]$ (which acts as a strong acid $\text{H}[\text{HOB}(\text{C}_6\text{F}_5)_3]$) and this then protonates a Pt-Me bond of $[\text{PtMe}_2(\text{t-Bu}_2\text{bpy})]$ forming CH_4 and $[\text{PtMe}(\text{t-Bu}_2\text{bpy})][\text{HOB}(\text{C}_6\text{F}_5)_3]$. This protonolysis methodol. provides an alternative route to the well-established electrophilic Me-ligand abstraction by $\text{B}(\text{C}_6\text{F}_5)_3$ for the prodn. of late transition-metal cations.

L4 ANSWER 116 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1997:56168 CAPLUS

DN 126:89565

TI Method for producing triphenylborane-amine complexes

IN Usu, Toshihiro; Shimada, Akira; Shibuya, Keiji; Katsuyama, Kazuki

PA Yoshitomi Pharmaceutical, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT. 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08311074	A2	19961126	JP 1996-52908	19960311
				JP 1995-55507	19950315

OS MARPAT 126:89565

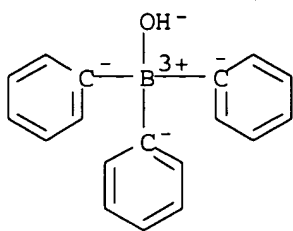
IT 12113-07-4 185421-90-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of triphenylborane-amine complexes by reaction of triphenylborane-sodium or potassium hydroxide adduct with amines)

RN 12113-07-4 CAPLUS

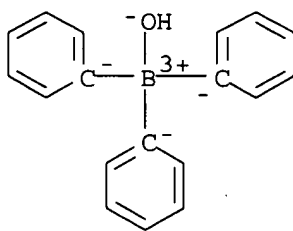
CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



● Na⁺

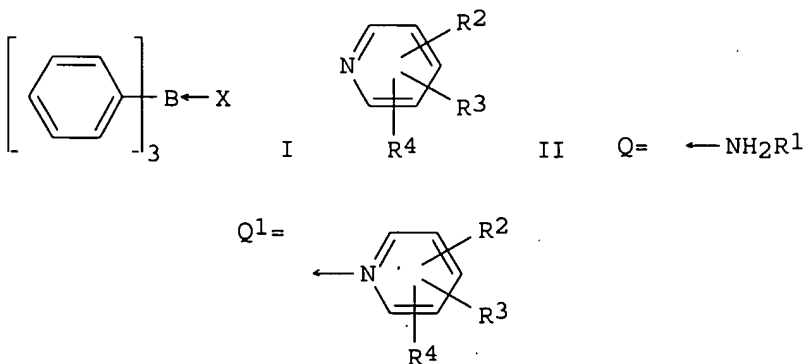
RN 185421-90-3. CAPLUS

CN Borate(1-), hydroxytriphenyl-, potassium, (T-4)- (9CI) (CA INDEX NAME)



● K⁺

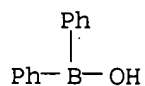
GI



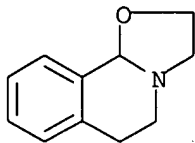
AB The title compds. (I; X = Q, Q1; wherein R2, R3, R4 = alkyl, haloalkyl, cycloalkyl, Ph, halo, alkoxy, alkenyl, aralkyl) are prepd. by reaction of triphenylborane-sodium or potassium hydroxide adduct $\text{Ph}_3\text{B}^+-\text{OH}.\text{Na}^+$ or

Ph₃B⁺-OH.K⁺ with R₁NH₂ or pyridine deriv. (II; R₂ - R₄ = same as above) in an aq. soln. This process is industrially advantageous, since it does not use expensive and very flammable ether but it uses water as the solvent and can be carried out in the air without fire hazard. Moreover the starting material, triphenylborane-sodium or potassium hydroxide adduct, is stable and safely handled. These compds. I are useful as antifouling agents for fishing nets, coatings for bottom of ships, industrial preservatives and antifungal agents, or animal repellents (no data). Thus, 10.8 g n-propylamine was slowly added dropwise over 30 min at 20.degree. to a 9.6% aq. soln. of Ph₃B⁺-OH.Na⁺ (461.0 g) under stirring, upon which crystals immediately pptd., and the resulting mixt. was allowed to react at 20.degree. for 3 h to give, after filtering off the crystals and washing them with water, 90% triphenylborane-n-propylamine complex.

L4 ANSWER 117 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1996:685037 CAPLUS
 DN 126:18813
 TI Twofold ring cleavage of 2,3,5,6-tetrahydro-10bH-oxazolo[2,3-a]isoquinoline with salts of hydroxylamine derivatives
 AU Moehrle, H.; Tot, E.; Steiner, S.
 CS Inst. Pharm. Chem., Heinrich-Heine-Univ., Duesseldorf, D-40225, Germany
 SO Journal fuer Praktische Chemie/Chemiker-Zeitung (1996), 338(8), 711-717
 CODEN: JPCCEM; ISSN: 0941-1216
 PB Barth
 DT Journal
 LA German
 OS CASREACT 126:18813
 IT **2622-89-1**, Diphenylborinic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (ring cleavage of tetrahydrooxazoloisoquinoline with hydroxylammonium derivs.)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



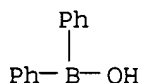
IT **184167-71-3P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (ring cleavage of tetrahydrooxazoloisoquinoline with hydroxylammonium derivs.)
 RN 184167-71-3 CAPLUS
 CN Borinic acid, diphenyl-, compd. with 2,3,6,10b-tetrahydro-5H-oxazolo[2,3-a]isoquinoline (1:1) (9CI) (CA INDEX NAME)
 CM 1
 CRN 95071-86-6
 CMF C11 H13 N O



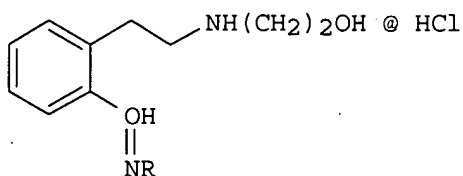
CM 2

CRN 2622-89-1

CMF C12 H11 B O



GI



II

AB The reaction of the title compd. (I) with $\text{HONH}_2 \cdot \text{HCl}$ led to the ring-opened [(hydroxyethyl)aminoethyl]benzaldehyde oxime II ($\text{R} = \text{OH}$). Similar products II ($\text{R} = \text{OMe}$, $\text{OCH}_2\text{CH}=\text{CH}_2$, OCMe_3 , OCH_2Ph , OCPh_3 , NHCONH_2 , NHCONHPh) were available from appropriate hydroxylamine ether and semicarbazide salts. The reactivity of I and the stability of the products was investigated.

L4 ANSWER 118 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:657110 CAPLUS

DN 126:3408

TI Selective Monosaccharide Transport through Lipid Bilayers Using Boronic Acid Carriers

AU Westmark, Pamela R.; Gardiner, Stephen J.; Smith, Bradley D.

CS Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, IN, 46556, USA

SO Journal of the American Chemical Society (1996), 118(45), 11093-11100
CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

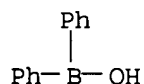
IT 2622-89-1, Diphenylborinic acid

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(selective monosaccharide transport through lipid bilayers using boronic acid carriers)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Twenty-one boronic acids were studied for their ability to transport saccharides in and out of liposomes. The rates of liposome efflux were detd. using an enzymic assay, whereas the influx studies used a radiotracer method. All boronic acids examd., except those that were highly hydrophilic, facilitated monosaccharide transport. The order of transport selectivity was sorbitol > fructose > glucose. The disaccharides maltose and sucrose were not transported to any significant degree. Facilitated transport was demonstrated with a variety of liposome types, including multilamellar and unilamellar vesicles with anionic or cationic polar lipid additives. Transport mechanism studies included the accumulation of structure-activity data, as well as systematic investigations of various environmental changes such as pH, added salt, membrane potential, and temp. Overall, the evidence is strongly in favor of a membrane carrier mechanism. The boronic acid combines reversibly with a diol group on the monosaccharide to produce a tetrahedral, anionic boronate, which is the major complexed structure in bulk, aq. soln. At the bilayer surface, the tetrahedral boronate is in equil. with its neutral, trigonal form, which is the actual transported species. At low carrier concns., a first-order dependence on carrier was obsd. indicating that the transported species was a 1:1 sugar-boronate. At higher carrier concns. the kinetic order approached 2, suggesting the increased participation of a 1:2 sugar-bisboronate transport pathway. The effect of boronic acids on liposomal bilayer fluidity was probed by fluorescence spectroscopy using appropriate reporter mols. Adding cholesterol to the liposome membranes reduced translational fluidity by "packing and ordering" the bilayer. Addn. of lipophilic arylboronic acids (either free or complexed with monosaccharides) induced a similar but smaller effect.

L4 ANSWER 119 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:649665 CAPLUS

DN 125:276888

TI Tris(pentafluorophenyl)borate complexes and olefin polymerization catalysts derived from them

IN Siedle, Allen R.; Miller, John A.; Lamanna, William M.

PA Minnesota Mining and Mfg. Co., USA

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9626967	A1	19960906	WO 1996-US737	19960119
	W:	AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI			
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN			

US 1995-396966 19950301

AU 9647027	A1	19960918	AU 1996-47027	19960119
			US 1995-396966	19950301
			WO 1996-US737	19960119
EP 812335	A1	19971217	EP 1996-902730	19960119
R: DE, FR, GB, IT, NL				
			US 1995-396966	19950301
			WO 1996-US737	19960119
EP 891991	A2	19990120	EP 1998-118324	19960119
EP 891991	A3	19990224		
R: DE, FR, GB, IT, NL				
			US 1995-396966	19950301
			EP 1996-902730	19960119
JP 11501342	T2	19990202	JP 1996-526244	19960119
			US 1995-396966	19950301
			WO 1996-US737	19960119

IT **147892-18-0P**

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
USES (Uses)

(tris(pentafluorophenyl)borate complexes and olefin polymn. catalysts
derived from them)

RN 147892-18-0 CAPLUS

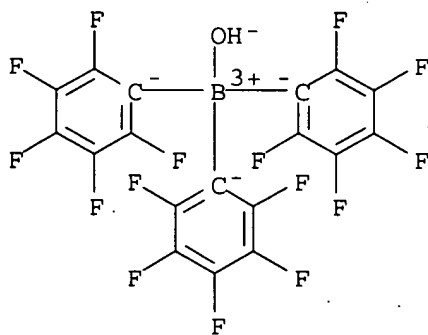
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with
N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 147892-17-9

CMF C18 H B F15 O . H

CCI CCS

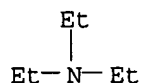


● H⁺

CM 2

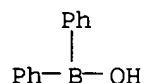
CRN 121-44-8

CMF C6 H15 N



AB Tris(pentafluorophenyl)borane complexes having general formula $(\text{C}_6\text{F}_5)\text{Bx}(\text{YXH})_q$ [X = O, S; q = 1-3; Y = H, C1-500 hydrocarbyl which may O and/or F, R13Si, (R2)2C:N; R1 = C1-25 alkyl, Ph, SiO-contg. group; R2 = C1-25 hydrocarbyl] are synthesized and used in combination with other organometallic compds. as catalysts for polymn. and copolymn. of olefins. Rubbery polymers produced by using these catalysts are useful in making pressure-sensitive adhesives and packaging film. Propylene was polymd. by using catalysts including tris(pentafluorophenyl)borane complex with octadecanol, [1,2-bis(9-fluorenyl)ethane]zirconium di-Me, and tri-n-octylaluminum to give a polymer with wt.-av. mol. wt. 500,000, no.-av. mol. wt. 228,000, polydispersity index 2.59, and Tg 270 K.

L4 ANSWER 120 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1996:532251 CAPLUS
 DN 125:212798
 TI SPE-HPLC determination of catecholamines using an affinity principle
 AU Brandsteterova, E.; Kubalec, P.; Krajnak, K.; Skacani, I.
 CS Department Analytical Chemistry, Slovak Technical University, Bratislava, 812 37, Slovakia
 SO Neoplasma (1996), 43(2), 107-112
 CODEN: NEOLA4; ISSN: 0028-2685
 PB Slovak Academic Press
 DT Journal
 LA English
 IT 2622-89-1
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
 (SPE-HPLC detn. of catecholamines in human urine)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Solid-phase extn. (SPE) with the affinity chromatog. principle was applied for high performance liq. chromatog. (HPLC) detn. of catecholamines in patients urine samples. Electrochem. amperometric detection (ED) was used for all HPLC analyses and both anal. and microbore columns were tested for optimal chromatog. resoln. of all analyzed catecholamines. Capacity ratio k' and detection limits were evaluated for all columns used. Precolumn affinity chromatog. procedure of catecholamines with diphenylboronic acid (DPBA) in alk. medium improved their retention on different com. SPE reversed-phase cartridges. After clean-up and preconcn. step the complex catecholamine-diphenylboronic acid was degraded by acidic pH and eluted from SPE cartridge. After SPE affinity step catecholamines were analyzed by HPLC-ED. The optimal elution solns. was chosen also as suitable SPE cartridges. Extn. recoveries of catecholamines were 89.6-93.3% with relative std. deviation RSD = 3.8-4.3%. Total anal. time was 30 min including 15 min for the presepn. procedure.

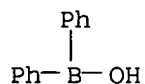
L4 ANSWER 121 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1996:321015 CAPLUS
 DN 124:343648
 TI Heterocyclylalkyl diarylboron ester and thioester fungicidal agents
 IN Patel, Bomi Pilloo; Van Tuyl Cotter, Henry; Lavanish, Jerome Michael
 PA American Cyanamid Company, USA
 SO Eur. Pat. Appl., 17 pp.
 CODEN: EPXXDW

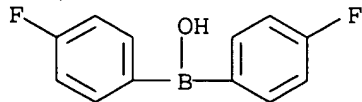
DT Patent
 LA English

FAN.CNT 1

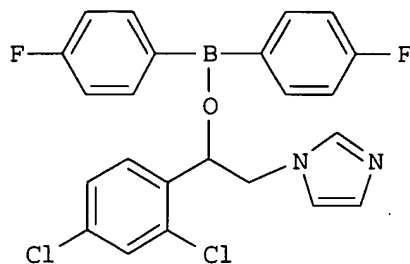
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 703235	A2	19960327	EP 1995-306682	19950921
	EP 703235	A3	19980107		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	US 5591726	A	19970107	US 1994-313525	19940926
	IL 115401	A1	19990411	US 1994-313525	19940926
				IL 1995-115401	19950922
				US 1994-313525	19940926
	HU 71992	A2	19960328	HU 1995-2796	19950925
	HU 216441	B	19990628		
				US 1994-313525	19940926
	AU 9532845	A1	19960404	AU 1995-32845	19950925
	AU 704406	B2	19990422		
				US 1994-313525	19940926
	BR 9504166	A	19960806	BR 1995-4166	19950925
				US 1994-313525	19940926
	JP 08245644	A2	19960924	JP 1995-268954	19950925
				US 1994-313525	19940926
	CN 1129062	A	19960821	CN 1995-116053	19950926
				US 1994-313525	19940926
OS	MARPAT 124:343648				
IT	2622-89-1 176913-70-5				
	RL: RCT (Reactant); RACT (Reactant or reagent)				
	(prepn. of heterocyclylphenylalkyl diphenylborinates from)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



RN 176913-70-5 CAPLUS
 CN Borinic acid, bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)

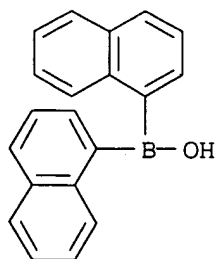


GI



AB The present invention provides heterocyclalkyl diarylboron ester and thioester compds., e.g., I, and their use for the prevention, control or amelioration of diseases caused by fungi (test data given). Further provided are compns. and methods comprising those compds. for the protection of plants from fungal infection and disease.

L4 ANSWER 122 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1996:409 CAPLUS
 DN 124:175135
 TI Synthesis and Characterization of Organic Materials with Conveniently Accessible Supercooled Liquid and Glassy Phases: Isomeric 1,3,5-Tris(naphthyl)benzenes
 AU Whitaker, Craig M.; McMahon, Robert J.
 CS Department of Chemistry, University of Wisconsin, Madison, WI, 53706-1396, USA
 SO Journal of Physical Chemistry (1996), 100(3), 1081-90
 CODEN: JPCHAX; ISSN: 0022-3654
 PB American Chemical Society
 DT Journal
 LA English
 IT **62981-91-3P**
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. of tris(naphthyl)benzenes with supercooled liq. and glassy phases)
 RN 62981-91-3 CAPLUS
 CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



AB 1,3,5-Tris(1-naphthyl)benzene [i.e., 1,1',1''-(1,3,5-benzenetriyl)tris[naphthalene]], 1,3-bis(1-naphthyl)-5-(2-naphthyl)benzene and 1-(1-naphthyl)-3,5-bis(2-naphthyl)benzene easily supercool, and form glasses on cooling from the melt. The above compds. were prepd. using Suzuki's conditions to effect the cross-coupling reaction of 1,3,5-tribromobenzene with 1-naphthylboronic acid and/or 2-naphthylboronic

acid. Variable-temp. ^{13}C NMR studies of 1,3,5-tris(1-naphthyl)benzene establish a barrier of ca. 12 kcal/mol for rotation about the aryl-aryl bond; this value displays good agreement with the barrier of 13 kcal/mol computed using mol. mechanics calcns. (MM2). This relatively low rotational barrier is inconsistent with the previously-held notion that 1,3,5-tris(1-naphthyl)benzene exists as a mixt. of noninterconverting rotational isomers (atropisomers) in soln. at room temp. Variable-temp. ^{13}C NMR studies of 1,3-bis(1-naphthyl)-5-(2-naphthyl)benzene establish barriers of ca. 12 kcal/mol for rotation about the 1-naphthyl-aryl bond and <9 kcal/mol for rotation about the 2-naphthyl-aryl bond. Again, these values display good agreement with the barriers of 14 kcal/mol and 2 kcal/mol computed using mol. mechanics calcns. (MM2). Earlier syntheses of 1,3,5-tris(1-naphthyl)benzene provided materials that were poorly characterized by modern stds. ^1H and ^{13}C NMR spectra of one such material, a sample widely-used in studies of glasses and supercooled liqs., establish the structure of the material as 1,3-bis(1-naphthyl)-5-(2-naphthyl)benzene, not 1,3,5-tris(1-naphthyl)benzene. This revised structural assignment necessitates a re-evaluation of the earlier literature. Differential scanning calorimetry (DSC) establishes that tris(naphthyl)benzenes melt (T_m = 182 .degree.C, 194 .degree.C and 147 .degree.C, resp.) and form glasses upon cooling (T_g = 81 .degree.C, 77 .degree.C and 67 .degree.C, resp.). Given its low m.p. and glass transition temp., 1-(1-naphthyl)-3,5-bis(2-naphthyl)benzene is an attractive candidate for future studies of mol. dynamics of glassy materials.

L4 ANSWER 123 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:526887 CAPLUS

DN 122:258671

TI Wood preservatives containing boronic, diboronic, or borinic acids

IN Lloyd, Jeffrey Douglas; Deane-Wray, Allison Kathleen

PA U.S. Borax Inc., USA

SO Brit. UK Pat. Appl., 18 pp.

CODEN: BAXXDU

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2281210	A1	19950301	GB 1993-17297	19930819
	WO 9505081	A1	19950223	WO 1994-GB1810	19940818
	W:	AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN			
	RW:	KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
				GB 1993-17297	19930819
	AU 9473902	A1	19950314	AU 1994-73902	19940818
				GB 1993-17297	19930819
				WO 1994-GB1810	19940818

OS MARPAT 122:258671

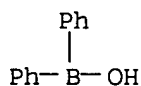
IT **2622-89-1P**, Diphenylborinic acid **71173-48-3P**

RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. as wood preservative)

RN 2622-89-1 CAPLUS

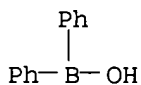
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 71173-48-3 CAPLUS
 CN Borinic acid, diphenyl-, compd. with 2-aminoethanol (1:1) (9CI) (CA INDEX NAME)

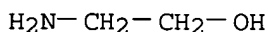
CM 1

CRN 2622-89-1
 CMF C12 H11 B O



CM 2

CRN 141-43-5
 CMF C2 H7 N O



AB A liq. biocidal or preservative compn. which is enzyme free comprises (i) as active ingredient at least one borinic, boronic or diboronic acid, (ii) at least one surfactant, and (iii) an aq. or org. solvent or carrier and is highly effective in protecting porous substrates, particularly cellulosic substrates such as timber, from attack by fungi, bacteria or insects. The active ingredient is at least one organoboron compd. of formula $\text{R}_1(\text{R}_2)_n\text{B}[(\text{R}_2)_m\text{R}_3]\text{OH}$, $\text{R}_1(\text{R}_2)_n\text{B}[(\text{R}_2)_m\text{OH}]\text{OH}$, or $\text{HOB}[(\text{R}_2)_m\text{OH}](\text{R}_2)_n\text{R}_4(\text{R}_2)_n\text{R}_4(\text{R}_2)_n\text{B}[(\text{R}_2)_m\text{OH}]\text{OH}$, where R_1 and R_3 = optionally substituted alkyl, cycloalkyl, aralkyl, or aryl (C1-20), and R_2 and R_4 = $-\text{[CH(X)]o-}$, $-\text{[C(X)=C(X)]p-}$, or $-\text{[CH(X)]q-}$ where $\text{X} = \text{H}$, optionally substituted C1-6 alkyl, aryl, OH, halogen, amino, nitro, thiol, aldehyde, carboxylic acid, sulfonate or phosphorate or their derivs. or salts, and where o, p, and q = 0, 1, or 2, and m and n = 0 or 1. Thus, 0.1% phenylboronic acid applied to filter papers killed subterranean termites (*Reticulitermes santonensis*) in 96-120 h and was more active than the std. wood preservative sodium octaborate. Phenylboronic acid and its halogenated derivs. were likewise active against *Coniophora puteana* and *Coriolus versicolor*.

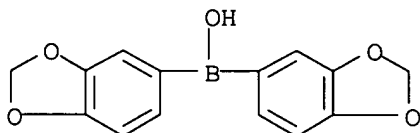
L4 ANSWER 124 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:444247 CAPLUS
 DN 122:213862
 TI Preparation of sesamol
 IN Kumamoto, Nobumitsu; Uchibori, Yukitaka; Umeno, Masayuki
 PA Hokko Chem Ind Co, Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

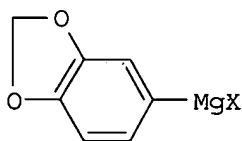
DT Patent
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06345756	A2	19941220	JP 1993-156387	19930603
	JP 2614812	B2	19970528		
				JP 1993-156387	19930603
OS	CASREACT 122:213862; MARPAT 122:213862				
IT	161800-66-4P				
	RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (prepn. of sesamol)				
RN	161800-66-4 CAPLUS				
CN	Borinic acid, bis(1,3-benzodioxol-5-yl)- (9CI) (CA INDEX NAME)				



GI



II

AB Sesamol (I) is prep'd. in several steps from benzenemagnesium halide II [X = halo]. Thus, reaction of II [X = Br] with tri-Bu borate, followed by treatment with aq. 10% sulfuric acid soln., and reaction with H₂O₂, gave 80.2% I.

L4 ANSWER 125 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:298350 CAPLUS

DN 122:265465

TI Tris(2,6-dimethoxyphenyl)borane and its adducts

AU Wada, Masanori; Kanzaki, Mitsuyuki; Ogura, Hideo; Hayase, Shuichi; Erabi, Tatsuo

CS Department of Materials Science, Faculty of Engineering, Tottori University, Koyama, Tottori, 680, Japan

SO Journal of Organometallic Chemistry (1995), 485(1-2), 127-33

CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier

DT Journal

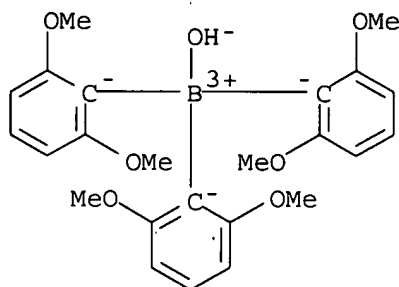
LA English

IT **162719-59-7P**

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and properties of tris(2,6-dimethoxyphenyl)borane adducts and tris(2,6-dimethoxyphenyl)cyanoborates)

RN 162719-59-7 CAPLUS

CN Borate(1-), tris(2,6-dimethoxyphenyl)hydroxy-, lithium, (T-4)- (9CI) (CA INDEX NAME).

● Li⁺

AB Tris(2,6-dimethoxyphenyl)borane, .PHI.3B (.PHI. = 2,6-(MeO)2C6H3), an air-stable cryst. compd., formed isolable 1 : 1 adducts with NH₃ and some primary amines but not with tertiary amines, secondary amines, or sec-alkylamines. Some tetraalkylammonium tris(2,6-dimethoxyphenyl)cyanoborates [R₄N][.PHI.3BCN] are sol. both in H₂O and in benzene, and the stearyltrimethylammonium salt is sol. even in n-hexane. The f.p. depression measurements for some tetraalkylammonium salts suggested that they are assocd. in benzene by several mols.

L4 ANSWER 126 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:262746 CAPLUS

DN 122:239778

TI Hindered organoboron groups in organic chemistry. 28. The solvolyses of bis(2,6-dimethyl-4-methoxyphenyl)organylboranes, (DMP)2BR

AU Pelter, Andrew; Drake, Robert

CS Department Chemistry, University College Swansea, Swansea, SA2 8PP, UK

SO Tetrahedron (1994), 50(48), 13801-28

CODEN: TETRAB; ISSN: 0040-4020

PB Elsevier

DT Journal

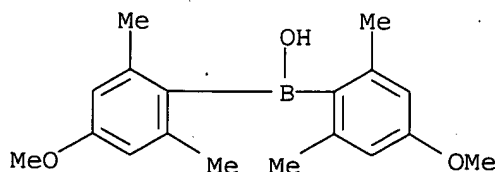
LA English

IT 50481-12-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of 4-methoxy-2,6-dimethylphenol from)

RN 50481-12-4 CAPLUS

CN Borinic acid, bis(4-methoxy-2,6-dimethylphenyl)- (9CI) (CA INDEX NAME)



AB Mineral acid catalyzed methanolysis of bis(2,6-dimethyl-4-methoxyphenyl)organylboranes, (DMP)2BR, is much faster than that of the corresponding dimesitylorganylboranes, Mes2BR. This allows for the release of organyl groups from overhindered boranes. It also provides a link between (DMP)2BR, from which .alpha.-carbanions can be produced, and RB(OMe)2 which do not yield .alpha.-carbanions. Solvolyses can be enhanced using glycol, which renders even HOAc an effective solvolysis catalyst.

L4 ANSWER 127 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:262745 CAPLUS

DN 122:239777

TI Hindered organoboron groups on organic chemistry. 27. Preparations and some properties of alkylbis(2,6-dimethyl-4-methoxyphenyl)boranes ((DMP)2BR)

AU Pelter, Andrew; Drake, Robert

CS Department Chemistry, University College Swansea, Swansea, SA2 8PP, UK

SO Tetrahedron (1994), 50(48), 13775-800

CODEN: TETRAB; ISSN: 0040-4020

PB Elsevier

DT Journal

LA English

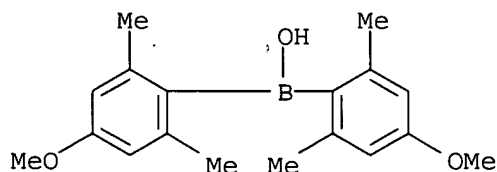
OS CASREACT 122:239777

IT 50481-12-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preps. and properties of alkylbis(2,6-dimethyl-4-methoxyphenyl)boranes)

RN 50481-12-4 CAPLUS

CN Borinic acid, bis(4-methoxy-2,6-dimethylphenyl)- (9CI) (CA INDEX NAME)



AB Alkylbis(2,6-dimethyl-4-methoxyphenyl)boranes ((DMP)2BR) were synthesized in an attempt to overcome the limitations of the steric hindrance approach to the prodn. of B stabilized carbanions. Anion prodn. from (DMP)2BR, followed by alkylations and condensations with aldehydes are reported. Redn. of (DMP)2BF with K hydride yields the corresponding hydroborate. Attempts to isolate (DMP)2BH were unsuccessful but the borane was readily trapped with alkynes, yielding alkenylboranes. The allyl deriv., (DMP)2BAllyl, was made and some of its reactions were studied.

L4 ANSWER 128 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:205961 CAPLUS

DN 122:3588

TI Diaryl (pyridinio and isoquinolinio) boron insecticidal and acaricidal agents

IN Patel, Bomi P.

PA American Cyanamid Co., USA

SO U.S., 7 pp.

CODEN: USXXAM

DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5354741	A	19941011	US 1993-59143	19930507
	EP 624315	A1	19941117	EP 1994-106124	19940420
	EP 624315	B1	19980701		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
AT	167781	E	19980715	AT 1994-106124	19940420
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
ES	2118281	T3	19980916	ES 1994-106124	19940420
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
CZ	287713	B6	20010117	CZ 1994-982	19940422
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
JP	07138265	A2	19950530	JP 1994-115829	19940502
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
IL	109506	A1	19990817	IL 1994-109506	19940502
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
CA	2122954	AA	19941108	CA 1994-2122954	19940505
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
BR	9401889	A	19941129	BR 1994-1889	19940505
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
AU	9461951	A1	19941110	AU 1994-61951	19940506
AU	677295	B2	19970417		
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
ZA	9403172	A	19950111	ZA 1994-3172	19940506
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
HU	67803	A2	19950529	HU 1994-1439	19940506
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
PL	178746	B1	20000630	PL 1994-303339	19940506
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
CN	1099557	A	19950308	CN 1994-105225	19940507
CN	1071995	B	20011003		
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507

PATENT FAMILY INFORMATION:

FAN 1995:205960

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5354740	A	19941011	US 1993-59048	19930507
	EP 624315	A1	19941117	EP 1994-106124	19940420
	EP 624315	B1	19980701		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
				US 1993-59048	A 19930507

AT 167781	E	19980715	US 1993-59143 A 19930507
			AT 1994-106124 19940420
			US 1993-59048 A 19930507
ES 2118281	T3	19980916	US 1993-59143 A 19930507
			ES 1994-106124 19940420
			US 1993-59048 A 19930507
CZ 287713	B6	20010117	US 1993-59143 A 19930507
			CZ 1994-982 19940422
			US 1993-59048 A 19930507
			US 1993-59143 A 19930507
JP 07138265	A2	19950530	JP 1994-115829 19940502
			US 1993-59048 A 19930507
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IL 109506	A1	19990817	IL 1994-109506 19940502
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			US 1993-59143 A 19930507
CA 2122954	AA	19941108	CA 1994-2122954 19940505
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AU 677295	B2	19970417	
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ZA 9403172	A	19950111	ZA 1994-3172 19940506
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HU 67803	A2	19950529	HU 1994-1439 19940506
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PL 178746	B1	20000630	PL 1994-303339 19940506
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CN 1099557	A	19950308	CN 1994-105225 19940507
CN 1071995	B	20011003	
			US 1993-59048 A 19930507
			US 1993-59143 A 19930507
IN 177039	A	19961026	IN 1994-CA346 19940510
			US 1993-59048 A 19930507

OS MARPAT 122:3588

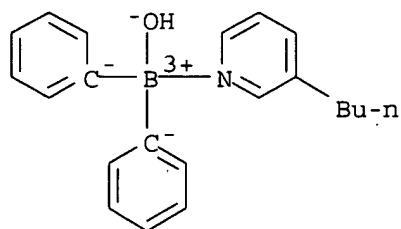
IT **159565-82-9P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(prepn. and insecticidal and acaricidal activity of boron derivs.)

RN 159565-82-9 CAPLUS

CN Boron, (3-butylpyridine)hydroxydiphenyl-, (T-4)- (9CI) (CA INDEX NAME)

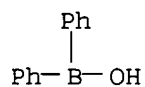


IT 2622-89-1, Diphenylborinic acid

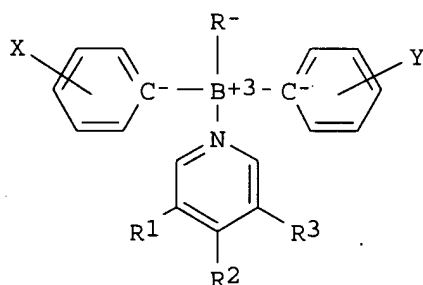
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with butylpyridine)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI



I

AB Insecticidal and acaricidal diaryl(pyridinio and isoquinolinio)boron compds. having the structure (I; where Xm = X and Yn = Y are H, halo, alkyl, haloalkyl, alkoxy, etc. with m and n = 0, 1, 2 or 3; R = alkyl, alkoxy, halo, hydroxy; R1 - R3 = H, halo, alkyl, haloalkyl, alkoxy, haloalkoxy, cyano, nitro, etc.) were prepd. and used for the protection of plants from attack by insects and acarina.

L4 ANSWER 129 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:205960 CAPLUS

DN 122:125925

TI Diaryl(pyridinio and isoquinolinio) boron fungicidal agents

IN Patel, Bomi P.

PA American Cyanamid Co., USA

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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Patel

9/24/2003>

PI	US 5354740	A	19941011	US 1993-59048	19930507
	EP 624315	A1	19941117	EP 1994-106124	19940420
	EP 624315	B1	19980701		
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				US 1993-59143	A 19930507
AT 167781	E	19980715	AT 1994-106124	19940420	
			US 1993-59048	A 19930507	
			US 1993-59143	A 19930507	
ES 2118281	T3	19980916	ES 1994-106124	19940420	
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			US 1993-59143	A 19930507	
JP 07138265	A2	19950530	JP 1994-115829	19940502	
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			US 1993-59143	A 19930507	
IL 109506	A1	19990817	IL 1994-109506	19940502	
			US 1993-59048	A 19930507	
			US 1993-59143	A 19930507	
CA 2122954	AA	19941108	CA 1994-2122954	19940505	
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BR 9401889	A	19941129	BR 1994-1889	19940505	
			US 1993-59048	A 19930507	
			US 1993-59143	A 19930507	
AU 9461951	A1	19941110	AU 1994-61951	19940506	
AU 677295	B2	19970417			
			US 1993-59048	A 19930507	
			US 1993-59143	A 19930507	
ZA 9403172	A	19950111	ZA 1994-3172	19940506	
			US 1993-59048	A 19930507	
			US 1993-59143	A 19930507	
HU 67803	A2	19950529	HU 1994-1439	19940506	
			US 1993-59048	A 19930507	
			US 1993-59143	A 19930507	
PL 178746	B1	20000630	PL 1994-303339	19940506	
			US 1993-59048	A 19930507	
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CN 1071995	B	20011003			
			US 1993-59048	A 19930507	
			US 1993-59143	A 19930507	
IN 177039	A	19961026	IN 1994-CA346	19940510	
			US 1993-59048	A 19930507	

PATENT FAMILY INFORMATION:

FAN 1995:205961

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5354741	A	19941011	US 1993-59143	19930507
	EP 624315	A1	19941117	EP 1994-106124	19940420
	EP 624315	B1	19980701		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
				US 1993-59048	A 19930507
				US 1993-59143	A 19930507
AT 167781	E	19980715	AT 1994-106124	19940420	
			US 1993-59048	A 19930507	

ES 2118281	T3	19980916	US 1993-59143 A 19930507
			ES 1994-106124 19940420
			US 1993-59048 A 19930507
CZ 287713	B6	20010117	US 1993-59143 A 19930507
			CZ 1994-982 19940422
			US 1993-59048 A 19930507
JP 07138265	A2	19950530	US 1993-59143 A 19930507
			JP 1994-115829 19940502
			US 1993-59048 A 19930507
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			IL 1994-109506 19940502
			US 1993-59048 A 19930507
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			US 1993-59048 A 19930507
BR 9401889	A	19941129	US 1993-59143 A 19930507
			BR 1994-1889 19940505
			US 1993-59048 A 19930507
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AU 677295	B2	19970417	AU 1994-61951 19940506
			US 1993-59048 A 19930507
			US 1993-59143 A 19930507
ZA 9403172	A	19950111	ZA 1994-3172 19940506
			US 1993-59048 A 19930507
			US 1993-59143 A 19930507
HU 67803	A2	19950529	US 1993-59143 A 19930507
			HU 1994-1439 19940506
			US 1993-59048 A 19930507
PL 178746	B1	20000630	US 1993-59143 A 19930507
			PL 1994-303339 19940506
			US 1993-59048 A 19930507
CN 1099557	A	19950308	US 1993-59143 A 19930507
CN 1071995	B	20011003	CN 1994-105225 19940507
			US 1993-59048 A 19930507
			US 1993-59143 A 19930507

OS MARPAT 122:125925

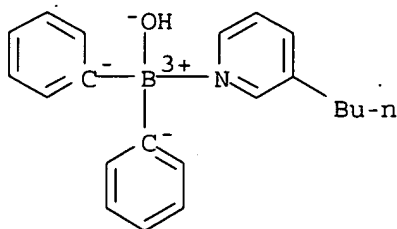
IT 159565-82-9P 161098-82-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(diaryl(pyridinio and isoquinolinio) boron fungicidal agents)

RN 159565-82-9 CAPLUS

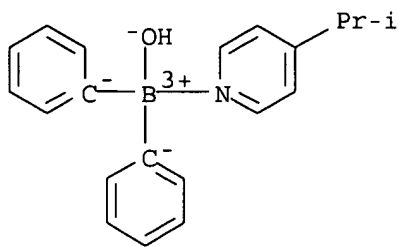
CN Boron, (3-butylpyridine)hydroxydiphenyl-, (T-4)- (9CI) (CA INDEX NAME)



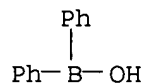
RN 161098-82-4 CAPLUS

CN Boron, hydroxy[4-(1-methylethyl)pyridine]diphenyl-, (T-4)- (9CI) (CA

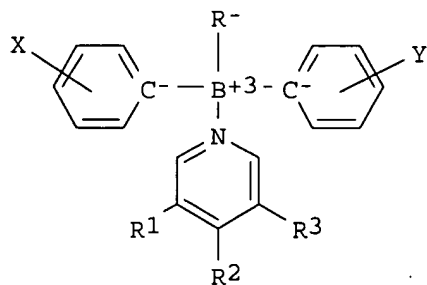
INDEX NAME)



IT 2622-89-1, Diphenylborinic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with butylpyridine)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI



I

AB Diaryl (pyridinio and isoquinolinio) boron compds. having the structural formula I ($X_m = X$ and $Y_n = Y$ are H, halo, alkyl, haloalkyl, etc.; m and n = 0, 1, 2, or 3; R = alkyl, alkoxy, halo or hydroxy; R1, R2, R3 = H, alkyl, haloalkyl, alkoxy, etc.) are used for the prevention, control or amelioration of diseases caused by phytopathogenic fungi. Compns. and methods comprising those compds. for the protection of plants from fungal infestation and disease are described.

L4 ANSWER 130 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1995:202653 CAPLUS

DN 122:285282

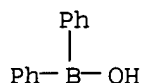
TI Molecular recognition with boron acids. 8. Diphenylborinic acid is a strong inhibitor of serine proteases

AU Steiner, Steven J.; Bien, Jeffrey T.; Smith, Bradley D.

CS Dep. Chem. Biochem., Univ. Notre Dame, Notre Dame, IN, 46556, USA

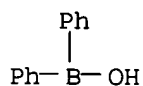
SO Bioorganic & Medicinal Chemistry Letters (1994), 4(20), 2417-20

CODEN: BMCLE8; ISSN: 0960-894X
 PB Elsevier
 DT Journal
 LA English
 IT **2622-89-1**, Diphenylborinic acid
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (diphenylborinic acid as strong inhibitor of serine proteases)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Diphenylborinic acid, a com. available and reasonably air-stable compd., was found to be a strong competitive inhibitor of 3 serine proteases. Compared to phenylboronic acid, it was a 30-fold better inhibitor of .alpha.-chymotrypsin, a 15-fold better inhibitor of subtilisin BPN', and a 60-fold better inhibitor of bovine trypsin. The pKa and inhibitory ability of methylphenylborinic acid was also detd.

L4 ANSWER 131 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:55046 CAPLUS
 DN 122:3693
 TI Transport of Glycosides through Liquid Organic Membranes Mediated by Reversible Boronate Formation is a Diffusion-Controlled Process
 AU Morin, Gregory T.; Hughes, Martin Patrick; Paugam, Marie-France; Smith, Bradley D.
 CS Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, IN, 46556, USA
 SO Journal of the American Chemical Society (1994), 116(20), 8895-901
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 IT **2622-89-1**, Diphenylborinic acid
 RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); BIOL (Biological study); PROC (Process)
 (transport of glycosides through liq. org. membranes mediated by reversible boronate formation is a diffusion-controlled process)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The ability of phenylboronic acid, [3-(1-adamantylcarboxamido)phenyl]boronic acid, and diphenylborinic acid to ext. and transport p-nitrophenyl .beta.-D-glucopyranoside (glucoside), p-nitrophenyl .beta.-D-galactopyranoside (galactoside), and p-nitrophenyl .beta.-D-mannopyranoside (mannoside) through a liq. org. membrane, in the presence of trioctylmethyllammonium or tetrabutylammonium chloride, was detd. Under

the conditions examd., glycoside transport was facilitated by the reversible formation of covalent tetrahedral, anionic glycoside-boronate complexes, which partitioned into the org. membrane as lipophilic ion pairs. The results of various expts. indicated the rate-limiting step in the transport process was diffusion of the solutes through the narrow unstirred boundary layers adjacent the org./aq. interfaces. A plot of glycoside transport rate vs. glycoside extn. const., K_{ex} , formed an approx. bell-shaped relation. Maximal transport occurred when the carrier admixt. had an extn. const. of $\log K_{ex}(\max)$ apprx. 2.2. Under low extn. conditions ($K_{ex} < K_{ex}(\max)$), movement of the glycoside from the receiving phase into the org. membrane was the rate-detg. step, and under high extn. conditions ($K_{ex} > K_{ex}(\max)$), exit from the membrane into the receiving phase was rate-detg. Because transport was dependent on K_{ex} , an anal. of the structural and environmental factors that controlled transport could be reduced to an anal. of the factors that changed K_{ex} relative to $K_{ex}(\max)$. The factors examd. included the following; pH, boron acid acidity, diol structure, polarity of the org. layer, boron acid lipophilicity, glycoside lipophilicity, quaternary ammonium lipophilicity, and the presence of competing lipophilic anions. The importance of $K_{ex}(\max)$ as the parameter detg. transport stereoselectivity is discussed.

L4 ANSWER 132 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:695090 CAPLUS

DN 121:295090

TI Diarylboron ester and thioester fungicidal agents

IN Patel, Bomi P.

PA American Cyanamid Co., USA

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5348947	A	19940920	US 1993-59155	19930507
				US 1993-59155	19930507

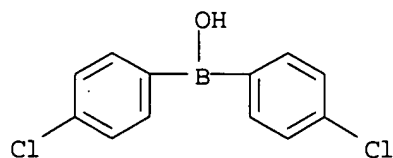
OS MARPAT 121:295090

IT 89566-59-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with hydroxyethylpyridine)

RN 89566-59-6 CAPLUS

CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)

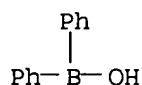


IT 2622-89-1, Diphenylborinic acid

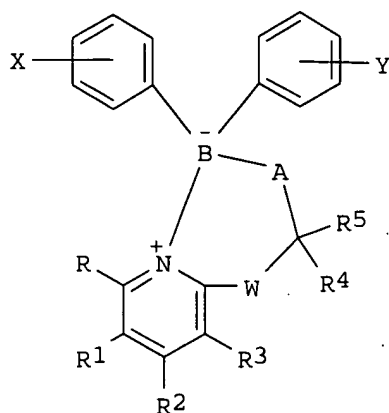
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with pyridinemethanol or quinaldic acid)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI



I

AB Diarylboron esters and thioesters having the structural formula (I, X = Xm and Y = Yn = H, halogen, C1-C6 alkoxy, C1-C6 haloalkoxy, etc., n = integer of 0, 1, 2 or 3; A = O or S; R-R3 = hydrogen, halogen, C1-C4 alkoxy, C1-C4 haloalkoxy, etc.; R4 and R5 = H, halogen, C1-C8 alkoxy, etc.; W = (CH2)p, where p = integer of 0 or 1) are fungicides and were prepd. by reacting a substituted pyridine with diarylborinic acid. These boron fungicides are effective against phytopathogenic fungi causing apple scab, downy mildew, rice blast, powdery mildew, etc.

L4 ANSWER 133 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:695089 CAPLUS

DN 121:295089

TI 2,2-diaryl-1-(oxa and thia)-2a-azonia-2-borataacenaphthene fungicidal

IN Patel, Bomi P.

PA American Cyanamid Co., USA

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5348948	A	19940920	US 1993-59940	19930507
				US 1993-59940	19930507

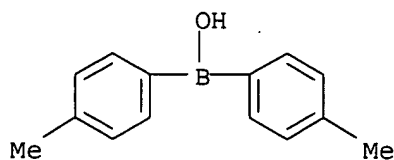
OS MARPAT 121:295089

IT 66117-64-4

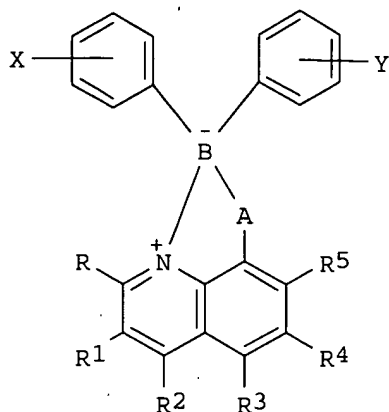
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with hydroxyquinoline)

RN 66117-64-4 CAPLUS

CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



GI



I

AB 2,2-Diaryl-1-(oxa and thia)-2a-azonia-2-borataacenaphthene compds. having the structural formula (I, A = O or S; R - R5 = H, halo, alkoxy, etc.; X and Y = H, halo, etc.) are fungicides which could be prepd. by reacting a substituted quinoline with diarylborinic acid. Compns. and methods comprising those compds. for the protection of plants from fungal infestation and disease are described.

L4 ANSWER 134 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:630821 CAPLUS

DN 121:230821

TI Structural studies of organoboron compounds. LXI. Synthesis of (alkylideniminoxy)diarylboranes and crystal and molecular structure of dimeric (ethylideniminoxy)bis(4-methoxyphenyl)borane [3,3,6,6-tetrakis(4-methoxyphenyl)-2,5-diethylidene-1,4-dioxa-2,5-diazonia-3,6-diboratacyclohexane]

AU Kliegel, Wolfgang; Nanninga, Dierk; Riebe, Ulf; Rettig, Steven J.; Trotter, James

CS Inst. Pharma. Chem., Tech. Univ. Braunschweig, Braunschweig, 38106, Germany

SO Canadian Journal of Chemistry (1994), 72(7), 1735-40

CODEN: CJCHAG; ISSN: 0008-4042

DT Journal

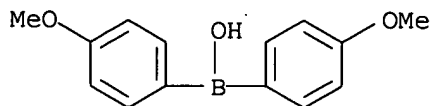
LA English

IT 73774-45-5, Bis(4-methoxyphenyl)borinic acid

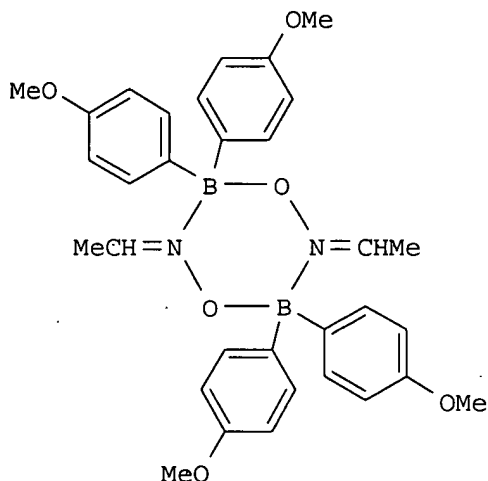
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with benzaldoxime)

RN 73774-45-5 CAPLUS

CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



GI



I

AB Oxime diarylborinates, e.g., I, were obtained from several aliph. and arom. aldoximes as well as from cyclic ketoximes by acylation with a diarylborinic acid or anhydride (R_2BX , R = aryl, X = OH or OBR₂). These compds. could also be synthesized by condensation of an (aminoxyl)diarylborane, which supposedly has a cyclodimeric BONBON structure, with an aldehyde or with a ketone. An x-ray anal. of I was carried out. A dimeric structure featuring a central six-membered BONBON ring was established. This represents the first structurally characterized example of a monocyclic BONBON ring.

L4 ANSWER 135 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:624863 CAPLUS

DN 121:224863

TI Boronic acids as enzyme models: Catalysis of oxime formation

AU Niu, Ling-Hao; Frias, Bernarda; Sharma, Subodh; Philipp, Manfred

CS LEHMAN COLLEGE AND GRADUATE CENTER, CITY UNIVERSITY NEW YORK, Bronx, NY, 10468, USA

SO Special Publication - Royal Society of Chemistry (1994), 143 (CURRENT TOPICS IN THE CHEMISTRY OF BORON), 185-8

CODEN: SROCDO; ISSN: 0260-6291

DT Journal

LA English

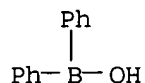
IT 2622-89-1, Diphenylborinic acid

RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)

(boronic acids as enzyme models and catalysis of oxime formation)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The reactions of several boronic acid compds. and their enzyme-like properties are described.

L4 ANSWER 136 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:523787 CAPLUS

DN 121:123787

TI RuHX(CO)(PR₃)₂: Can .nu.CO Be a Probe for the Nature of the Ru-X Bond?

AU Poulton, Jason T.; Sigalas, Michael P.; Folting, Kirsten; Streib, William E.; Eisenstein, Odile; Caulton, Kenneth G.

CS Molecular Structure Center, Indiana University, Bloomington, IN, 47405, USA

SO Inorganic Chemistry (1994), 33(7), 1476-85

CODEN: INOCAJ; ISSN: 0020-1669

DT Journal

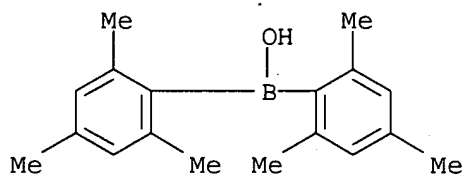
LA English

IT **156958-65-5**

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with ruthenium carbonyl hydrido phosphine complex)

RN 156958-65-5 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)-, lithium salt (9CI) (CA INDEX NAME)

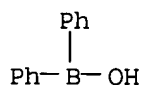


● Li

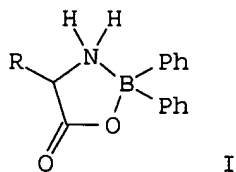
AB The relative electron-donating ability of X in the new 5-coordinate RuHX(CO)(P(CMe₃)₂Me)₂ (X = I, Br, Cl, F, OPh, OH, OCH₂CF₃, OEt, OPh₃, OB(Mesityl)₂, OSiR₃, NPh, SPh, C₂Ph) was evaluated based on the CO stretching frequency. In all cases, the CO frequency is lower than that of the free CO and the redn. increases in the order I < Br < Cl < F < alkoxide, with the ethoxide inducing the largest shift. NPh behaves as OPh and SPh appears at a higher frequency than OPh. Similar measurements were conducted on the 6-coordinate pyridine adducts and a similar ranking of CO frequencies is obtained, but all frequencies are shifted lower. Hydride is the weakest of all donors. There can be no conventional (2-center) Ru-X .pi.-bonding in these pyridine adducts because the Ru(d)/X(p.pi.) interactions are 2-orbital/four-electron ones and thus are net destabilizing. However, the CO .pi.* orbitals interact to stabilize the Ru-X .pi.* orbital, thereby retaining some degree of net Ru-X .pi. bonding. The structure of RuH(OSiPh₃)(CO)(P(CMe₃)₂Me)₂ is square pyramidal with H at the apical site of the pyramid and the siloxy group

trans to CO. EHT and core-potential ab initio calcns. (full optimization at the HF and partial optimization at the MP2 level) were performed to det. the structure of $\text{RuHX}(\text{CO})(\text{PH}_3)_2$ ($\text{X} = \text{F}, \text{Cl}, \text{OH}, \text{OMe}, \text{OSiH}_3$ with d orbitals on the Si atom). The square pyramid is preferred for all X. This structure permits optical push-pull effects between the π -donating X group and the π^* of CO. The CO frequency was calcd. at the MP2 level, and the ranking is identical to the exptl. ones. π Effects are larger for alkoxy than for halide, but the variation in π -effects alone is not sufficient to account for the ranking of the CO frequencies down a column of the periodic table; the σ effect is also involved. In particular, strongly ionic Ru-X bonds lead to lower CO frequency. This last effect causes large changes in the ^{19}F chem. shift for $\text{RuH}(\text{F})(\text{CO})(\text{P}(\text{CMe}_3)_2\text{Me})_2$ species upon adding a 6th ligand to Ru. It also causes strong H bonding of fluoride to added alc. In spite of Ru/X multiple bonding in the 5-coordinate species, they are Lewis acidic toward amines and phosphines. Crystal data for $\text{RuH}(\text{OSiPh}_3)(\text{CO})(\text{P}(\text{CMe}_3)_2\text{Me})_2$ at -160°C : a 11.263(1), b 31.713(4), c 22.311(3) \AA , and β 100.07(0) $^\circ$. with Z = 4 in space group P2₁/n.

L4 ANSWER 137 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:509594 CAPLUS
 DN 121:109594
 TI NMR studies of 1,1-diphenylboroxazolidone derivatives of α -amino acids
 AU Farfan, Norberto; Silva, David; Santillan, Rosa
 CS Cent. Invest. Estud. Avanzados, Inst. Politec. Nac., Mexico City, 07000, Mex.
 SO Heteroatom Chemistry (1993), 4(6), 533-6
 CODEN: HETCE8; ISSN: 1042-7163
 DT Journal
 LA English
 IT 2622-89-1, Diphenylborinic acid
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclocondensation of, with amino acids, boroxazolidones from)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI

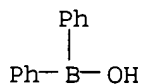


I

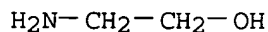
AB A series of twelve 1,1-diphenylboroxazolidones I (R = amino acid side chain), prepd. from α -amino acids $\text{H}_2\text{NCHRCO}_2\text{H}$ and diphenylborinic acid were studied using one- and, in some cases, two-dimensional (HETCOR)

NMR techniques. Interpretation of these spectra led to definitive assignment of all carbon, hydrogen, and boron resonances.

L4 ANSWER 138 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:459934 CAPLUS
 DN 121:59934
 TI Aromatic boronic acids as wood preservatives, including solid state NMR studies
 AU Meinhold, R. H.
 CS N. Z.
 SO Ind. Res. Ltd. Rep. (1993), 89, 41 pp.
 CODEN: IRLRED
 DT Report
 LA English
 IT **71173-48-3**
 RL: USES (Uses)
 (wood preservative activity of)
 RN 71173-48-3 CAPLUS
 CN Borinic acid, diphenyl-, compd. with 2-aminoethanol (1:1) (9CI) (CA INDEX NAME)
 CM 1
 CRN 2622-89-1
 CMF C12 H11 B O



CM 2
 CRN 141-43-5
 CMF C2 H7 N O



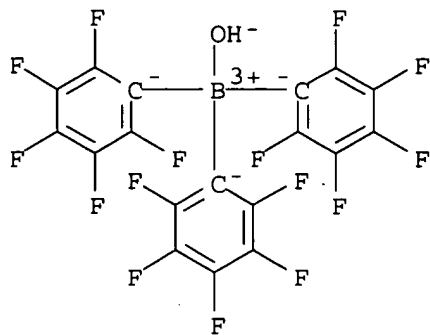
AB Styrylboronic acid (I) was obtained by Grignard reaction of p-bromostyrene and B(OBu)₃ and its NMR spectra and crystal structure indicated the presence of H bonding. Solid-state photopolymn. of I provided the polymer. I when evaluated (along with other boronic acids) as a pinewood preservative polyemd. in situ. The most effective of the 8 compds. tested were PhB(OH)₂ and p-BrC₆H₄B(OH)₂.

L4 ANSWER 139 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:436424 CAPLUS
 DN 121:36424
 TI Tris(pentafluorophenyl)borane complexes and catalysts derived therefrom
 IN Siedle, Allen R.; Lamanna, William M.
 PA Minnesota Mining and Mfg. Co., USA
 SO PCT Int. Appl., 37 pp.
 CODEN: PIXXD2
 DT Patent

LA English

FAN.CNT 1

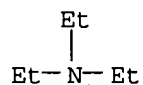
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9321238	A2	19931028	WO 1993-US2099	19930308
	WO 9321238	A3	19940120		
	W:	AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA			
	RW:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG			
	US 5296433	A	19940322	US 1992-868041	19920414
	AU 9337971	A1	19931118	US 1992-868041	19920414
				AU 1993-37971	19930308
				US 1992-868041	19920414
				WO 1993-US2099	19930308
	EP 636151	A1	19950201	EP 1993-907329	19930308
	EP 636151	B1	19971015		
	R:	BE, CH, DE, FR, GB, IT, LI, NL			
				US 1992-868041	19920414
				WO 1993-US2099	19930308
	JP 07508298	T2	19950914	JP 1993-518312	19930308
				US 1992-868041	19920414
				WO 1993-US2099	19930308
	US 5416177	A	19950516	US 1994-282820	19940729
				US 1992-868041	19920414
				US 1993-99197	19930729
OS	MARPAT 121:36424				
IT	147892-18-0P 155962-39-3P 155962-41-7P				
	155962-42-8P 155962-43-9P 155962-44-0P				
	155962-45-1P 155962-47-3P				
	RL: PREP (Preparation)				
	(prepn. of, as catalysts for polymn. of olefins)				
RN	147892-18-0 CAPLUS				
CN	Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)				
CM	1				
CRN	147892-17-9				
CMF	C18 H B F15 O . H				
CCI	CCS				



CM 2

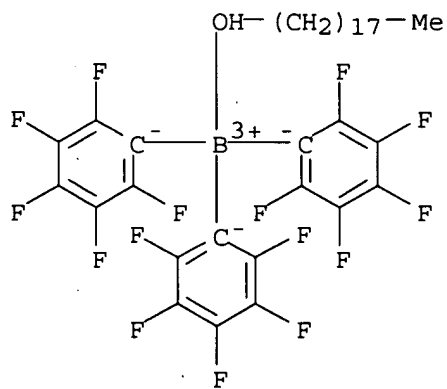
CRN 121-44-8

CMF C6 H15 N



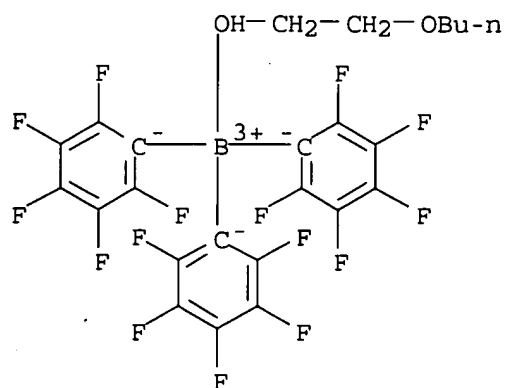
RN 155962-39-3 CAPLUS

CN Boron, (1-octadecanol)tris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



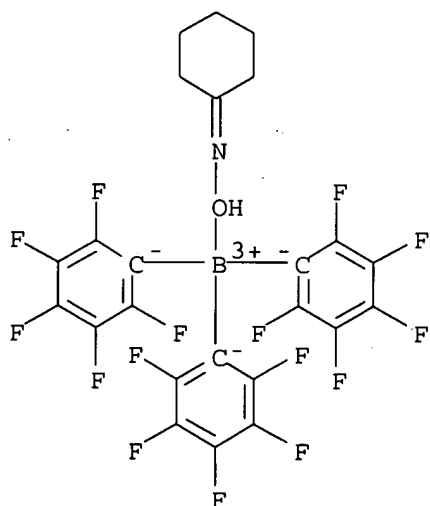
RN 155962-41-7 CAPLUS

CN Boron, (2-butoxyethanol-O1)tris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



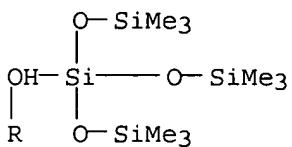
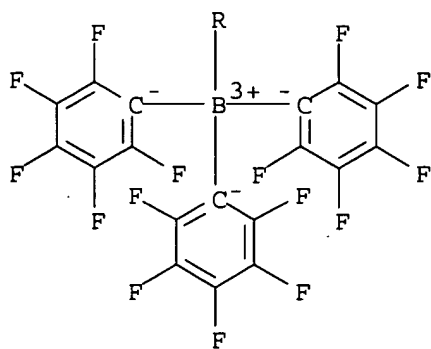
RN 155962-42-8 CAPLUS

CN Boron, (cyclohexanone oxime-O)tris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



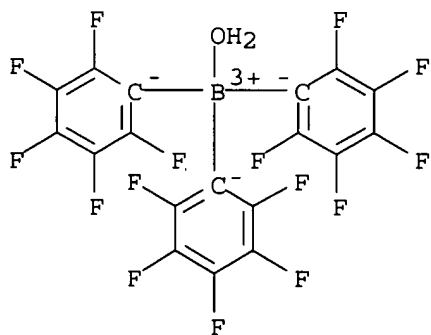
RN 155962-43-9 CAPLUS

CN Boron, [1,1,1,5,5,5-hexamethyl-3-[(trimethylsilyl)oxy]-3-trisiloxanol]tris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



RN 155962-44-0 CAPLUS

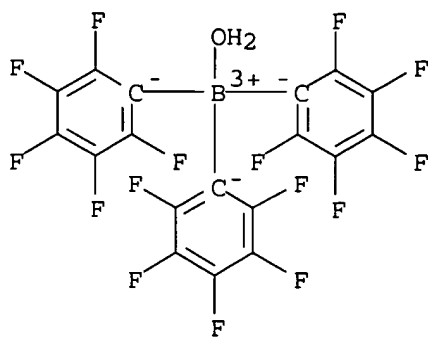
CN Boron, aquatris(pentafluorophenyl)-, dihydrate, (T-4)- (9CI) (CA INDEX NAME)



● 2 H₂O

RN 155962-45-1 CAPLUS

CN Boron, aquatris(pentafluorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



RN 155962-47-3 CAPLUS

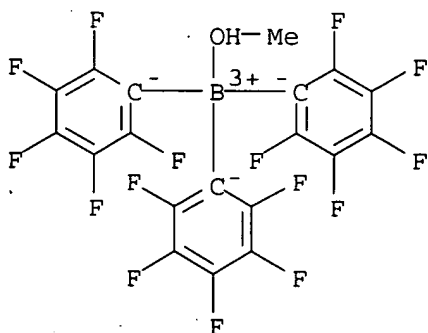
CN Boron, (methanol)tris(pentafluorophenyl)-, (T-4)-, compd. with methanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 155962-46-2

CMF C19 H4 B F15 O

CCI CCS



CM 2

CRN 67-56-1

CMF C H4 O

H₃C-OH

AB Catalysts for polymn. of olefins comprise complexes of tris(pentafluorophenyl)borane with H₂O, alcs., etc. and group IVB organometallic compds. The catalysts are sol. in olefins. 1-Hexene was polymd. using (C₆F₅)₃B.cntdot.H₂O and (C₅H₅)₂ZrMe₂ catalysts to give a polymer with no.-av. mol. wt. 400.

L4 ANSWER 140 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:270807 CAPLUS

DN 120:270807

Patel

9/24/2003>

TI Derivatives of benzeneborinic acid, preparation thereof and use thereof as synthetic intermediates
 IN Chekroun, Isaac; Ruiz-Montes, Jose; Bedoya-Zurita, Manuel; Rossey, Guy
 PA Synthelabo S. A., Fr.
 SO U.S., 3 pp.
 CODEN: USXXAM

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5278312	A	19940111	US 1992-967908	19921029
				FR 1992-12166	19921012
	FR 2696746	A1	19940415	FR 1992-12166	19921012
	FR 2696746	B1	19941118		
	EP 593332	A1	19940420	EP 1993-402424	19931004
	EP 593332	B1	19980114		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
				FR 1992-12166	19921012
	AT 162192	E	19980115	AT 1993-402424	19931004
				FR 1992-12166	19921012
	FI 9304468	A	19940413	FI 1993-4468	19931011
				FR 1992-12166	19921012
	IL 107242	A1	19981030	IL 1993-107242	19931011
				FR 1992-12166	19921012
	CA 2108231	AA	19940413	CA 1993-2108231	19931012
				FR 1992-12166	19921012
	JP 06192240	A2	19940712	JP 1993-254129	19931012
				FR 1992-12166	19921012
	US 5382672	A	19950117	US 1993-155170	19931119
				FR 1992-12166	19921012
				US 1992-967908	19921029

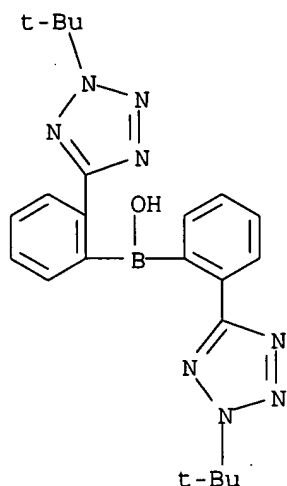
OS MARPAT 120:270807

IT **154466-55-4P**

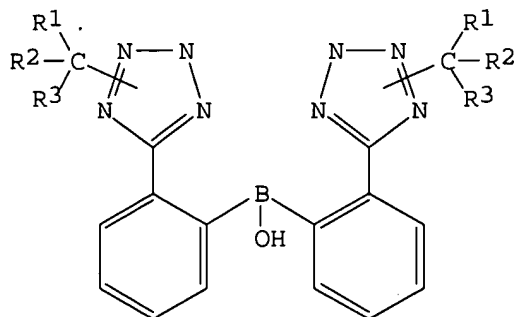
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and coupling reaction of, with (bromophenyl)pyrimidinone deriv.)

RN 154466-55-4 CAPLUS

CN Borinic acid, bis[2-[2-(1,1-dimethylethyl)-2H-tetrazol-5-yl]phenyl]- (9CI)
 (CA INDEX NAME)



GI



I

AB A process for the prepn. of derivs. of benzeneborinic acid corresponding to the formula I in which R1, R2 and R3 represent, each independently of the others, either a (C1-C2)alkyl group or an aryl group, the group -CR1R2R3 being in position 1 or 2 of the tetrazole ring and method of use as synthetic intermediates.

L4 ANSWER 141 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:264953 CAPLUS

DN 120:264953

TI Covalent protein crosslinks: general detection, quantitation, and characterization via modification with diphenylborinic acid

AU Graham, Lila; Gallop, Paul M.

CS Dep. Orthop. Surg., Child. Hosp., Boston, MA, 02115, USA

SO Analytical Biochemistry (1994), 217(2), 298-305

CODEN: ANBCA2; ISSN: 0003-2697

DT Journal

LA English

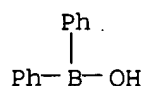
IT 2622-89-1, Diphenylborinic acid

RL: ANST (Analytical study)

(protein covalent crosslinks anal. with)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Progressive crosslinking of proteins appears to be a general phenomenon in aging cells and tissues. Crosslinked proteins can form insol. aggregates which become increasingly resistant to proteolysis as more crosslinks form. However, most evidence for progressive crosslinking with age is indirect, and little is known about the chem. mechanisms involved. The authors have therefore developed a method for detection and isolation of any type of stable covalent crosslink from protein hydrolyzates which requires no prior knowledge of the mol. structure of whatever crosslink(s) may be present. It utilizes the specificity of the diphenylborinic acid reagent for .alpha.-amino acid groups and the chromatog. properties and UV absorbance of the crosslink derivs. The method is demonstrated using 8 different crosslinks from collagen and fibrin, and a general procedure is given for detection of any type of crosslink in a protein hydrolyzate.

L4 ANSWER 142 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1994:191761 CAPLUS

DN 120:191761

TI Barriers to rotation about the B-X bonds of coordinatively unsaturated borates and thioborates R₂BXR' (X = O, S) are not measures of the relative strengths of their B:O and B:S .pi. bonds

AU Ashby, Michael T.; Sheshtawy, Nader A.

CS Dep. Chem. Biochem., Univ. Oklahoma, Norman, OK, 73019, USA

SO Organometallics (1994), 13(1), 236-43

CODEN: ORGND7; ISSN: 0276-7333

DT Journal

LA English

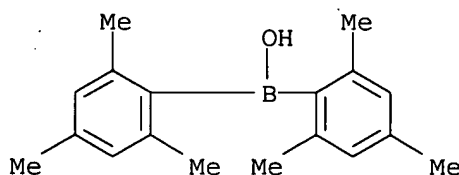
OS CASREACT 120:191761

IT 20631-84-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 20631-84-9 CAPLUS

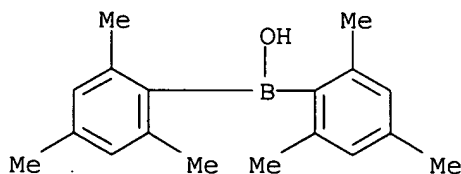
CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB The mol. structures of (2,4,6-Me₃C₆H₂)₂BXCH₃ (1; X = O, S) have been detd. by single-crystal x-ray crystallog. The boron atoms adopt approx. trigonal planar geometries, and the XC moieties lie in the C₂BX planes, an orientation about the B-X bond that maximizes Bp.pi.-Xp.pi. bonding. The mesitylene rings are rotated .apprx.60.degree. with respect to the C₂BX plane, which prohibits significant Bp.pi.-aryl interaction. Thus, the crystal structures of 1 (X = O, S) offer benchmarks for comparing discrete

Bp.pi.-Xp.pi. bonds. A comparison of the B and X effective radii (calcd. by assuming the B-C and X-C lengths represent single bonds) indicates that the B-O bond is stronger than the B-S bond. Ab initio MO calcns. have been carried out on the model compds. H₂BXH (2; X = O, S). The geometries of 2 have been optimized at the SCF level for various rotational orientations about the B-X bonds. The ground-state geometries of 2 are analogous to those obsd. exptl., with the X-H bonds lying in the trigonal planes of the boron atoms. Mirroring the dynamic behavior obsd. exptl., the energy barrier found for rotation about the B-X bond of 2 (X = S) is larger than that for 2 (X = O). Mulliken population anal. suggests, with respect to the BH₂ .pi.-acceptor moiety, that the OH and SH groups are comparable .pi. donors in the ground-state geometry (H-B-X-H = 0, 180.degree.), but the OH group is a much better .pi. donor than the SH group in the transition-state geometry (H-B-X-H = 90.degree.). Thus the trend in the barriers to rotation is attributed to a greater stabilization of the transition state by oxygen and not a stronger Bp.pi.-Sp.pi. bond in the ground state. Accordingly, rotational barriers about the B-X bonds of R₂BOR' and R₂BSR' complexes are not measures of their relative B-X .pi.-bond strengths.

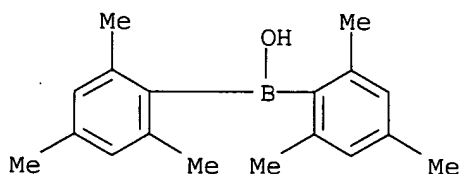
L4 ANSWER 143 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:93915 CAPLUS
 DN 120:93915
 TI Triple bonds between tungsten atoms with ancillary dimesitylboroalkoxide ligands. Preparations, properties and structures of W₂(NMe₂)₄[OB(Mes)₂]₂ and W₂(OBut)₄[OB(Mes)₂]₂
 AU Chisholm, Malcolm H.; Folting, Kirsten; Haubrich, Scott T.; Martin, James D.
 CS Department of Chemistry and Molecular Structure Center, Indiana University, Bloomington, IN, 47405, USA
 SO Inorganica Chimica Acta (1993), 213(1-2), 17-24
 CODEN: ICHAA3; ISSN: 0020-1693
 DT Journal
 LA English
 IT 20631-84-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with tungsten amido or butoxo dinuclear complexes)
 RN 20631-84-9 CAPLUS
 CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB From the reaction between W₂(NMe₂)₆ and dimesitylborinic acid, (Mes)₂BOH (2 equiv), in toluene, the golden-yellow cryst. compd. W₂(NMe₂)₄[OB(Mes)₂]₂ (1) was isolated and characterized (elemental anal., ¹H, ¹³C{¹H}, ¹¹B NMR spectroscopy, IR spectroscopy and a single crystal x-ray diffraction study). At -160.degree., a 39.379(7), b 13.649(2), c 21.918(4) .ANG., .beta. 123.12(1).degree., Z = 8 and space group C2/c. W₂(O(CMe₃))₄[OB(Mes)₂]₂ (2) was similarly characterized as a dark red cryst. compd. obtained from the reaction between W₂(O(CMe₃))₆ and (Mes)₂BOH (2 equiv) in toluene. At -159.degree., a 17.164(2), b

19.773(2), c 18.490(2) .ANG., .beta. 102.91(1).degree., Z = 4 and space group C2. In both compds. there are unsupported W.tplbond.W bonds of distance 2.3068(13) and 2.3521(15) .ANG. for compd. 1 and 2, resp. In 1 there is a central ethane like W2N4O2 core with the gauche conformation, W-N = 1.94(2) (av.) and W-O = 1.93(1) .ANG.. The coordination geometry at N is trigonal planar and the NC2 units are aligned along the W-W axis as found for related compds. In compd. 2 the W2O4O2 skeleton is eclipsed and most surprisingly the W-O' distances to the OB(Mes)2 ligands are shorter 1.81(1) .ANG. than the W-O distances 1.94(1) and 1.90(1) .ANG. to the alkoxide ligands. In both 1 and 2 the coordination geometry at B is trigonal planar and the O-B distances fall in the range 1.37(3)-1.41(3) .ANG., and are statistically equiv. to that of the free borinic acid. Compd. 2 has crystallog. imposed C2 symmetry and the OB(Mes)2 groups are syn. These are the 1st structurally characterized boroalkoxides coordinated to the (W.tplbond.W)6+ moiety and comparisons of W-O .pi. bonding are made with respect to related OR and OSiR3 compds.

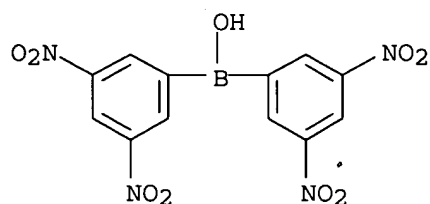
L4 ANSWER 144 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:76952 CAPLUS
 DN 120:76952
 TI Hindered organoboron groups in organic chemistry. 23. The interactions of dimesitylboron-stabilized carbanions with aromatic ketones and aldehydes to give alkenes
 AU Pelter, Andrew; Buss, Dieter; Colclough, Eamon; Singaram, Bakthan
 CS Dep. Chem., Univ. Coll. Swansea, Singleton Park/Swansea, SA2 8PP, UK
 SO Tetrahedron (1993), 49(32), 7077-103
 CODEN: TETRAB; ISSN: 0040-4020
 DT Journal
 LA English
 OS CASREACT 120:76952
 IT **20631-84-9P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 20631-84-9 CAPLUS
 CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



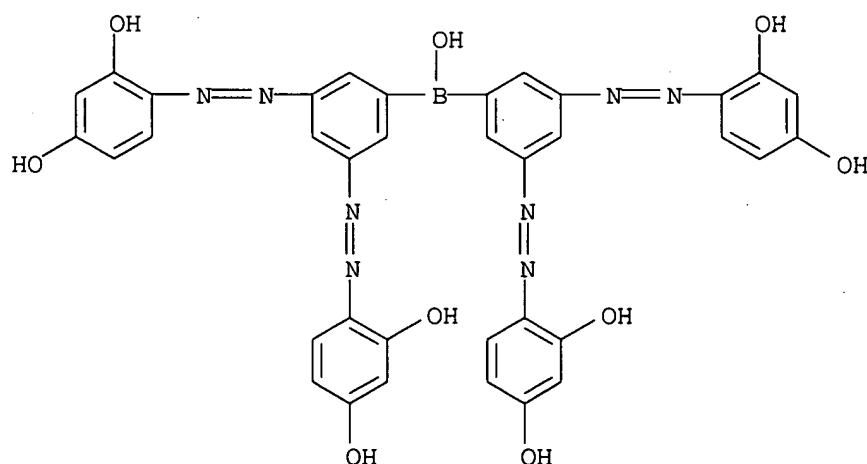
AB Dimesitylboron-stabilized carbanions react with diaryl ketones to give the corresponding alkenes in mild conditions with good yields. Reactions with arom. aldehydes are more complex, but in all cases E-alkenes are available in good yields by trapping the intermediates with chlorotrimethylsilane followed by treatment with aq. HF/CH3CN. Treatment of the same intermediates with trifluoroacetic anhydride gives mainly the Z-alkenes. The design and mechanisms of these important processes are considered.

L4 ANSWER 145 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1993:495588 CAPLUS
 DN 119:95588
 TI Synthesis of di[3,5-di(2,4-dihydroxyphenylazo)phenyl]boric acid
 AU Lu, Kui

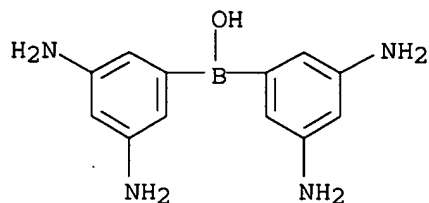
CS Dep. Basic Courses, Zhengzhou Grain Coll., Zhengzhou, 450052, Peop. Rep. China
SO Huaxue Shiji (1993), 15(2), 115-16
CODEN: HUSHDR; ISSN: 0258-3283
DT Journal
LA Chinese
OS CASREACT 119:95588
IT **149054-30-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and redn. of)
RN 149054-30-8 CAPLUS
CN Borinic acid, bis(3,5-dinitrophenyl)- (9CI) (CA INDEX NAME)



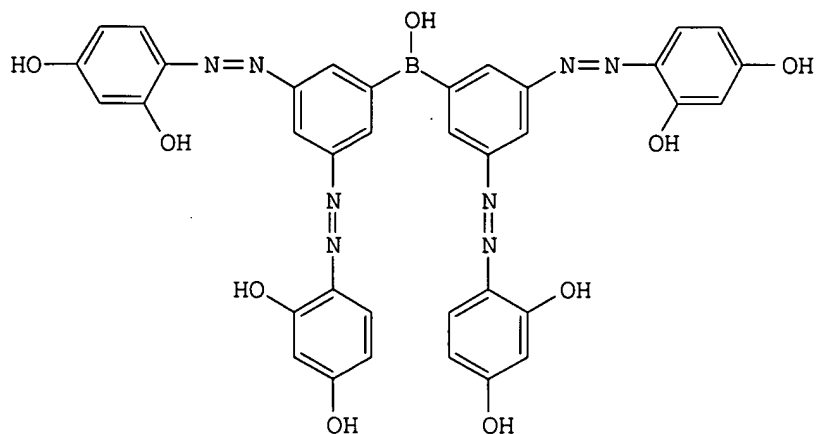
IT **149054-32-0P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and spectra of)
RN 149054-32-0 CAPLUS
CN Borinic acid, bis[3,5-bis[(2,4-dihydroxyphenyl)azo]phenyl]- (9CI) (CA INDEX NAME)



IT **149054-31-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn., diazotization, and coupling reaction of)
RN 149054-31-9 CAPLUS
CN Borinic acid, bis(3,5-diaminophenyl)- (9CI) (CA INDEX NAME)



GI



I

AB The title compd. (I) was prepd. starting for $\text{Ph}_2\text{BOCH}_2\text{CH}_2\text{NH}_2$ by nitration, redn., diazotization, and coupling with resorcinol.

L4 ANSWER 146 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1993:472216 CAPLUS

DN 119:72216

TI Hindered organoboron groups in organic chemistry. 20. Alkylations and acylations of dimesitylboron stabilized carbanions

AU Pelter, Andrew; Warren, Lorraine; Wilson, John W.

CS Dep. Chem., Univ. Swansea, Swansea, SA2 8PP, UK

SO Tetrahedron (1993), 49(14), 2988-3006

CODEN: TETRAB; ISSN: 0040-4020

DT Journal

LA English

OS CASREACT 119:72216

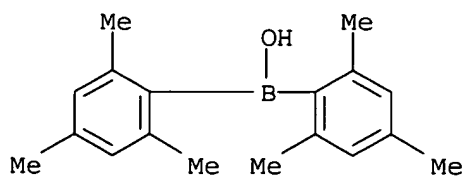
IT **20631-84-9P**

RL: FORM (Formation, nonpreparative); PREP (Preparation)

(formation of, by oxidn. of mesitylboron-substituted carbanion)

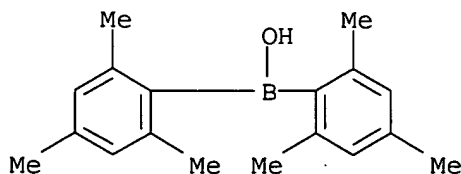
RN 20631-84-9 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



Patel

9/24/2003>



AB The alkylation of carbanions derived from alkyl dimesitylboranes is an efficient process leading to prim-RBMes₂, sec-RBMes₂ and tert-RBMes₂, all of which can be derived from MeBMe₂. Subsequent oxidn. gives a general synthesis for prim-ROH. Secondary alkanols are also produced on oxidn., but the release of tert-alkanols was not accomplished in an efficient fashion. Studies are given of the acylation of dimesitylboron-stabilized carbanions.

L4 ANSWER 147 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1993:460231 CAPLUS

DN 119:60231

TI Structure of hydroxo(methyl)bis(.eta.5-pentamethylcyclopentadienyl)tantalum(V) hydroxotris(pentafluorophenyl)borate

AU Schaefer, William P.; Quan, Roger W.; Bercaw, John E.

CS Div. Chem. Chem. Eng., California Inst. Technol., Pasadena, CA, 91125, USA

SO Acta Crystallographica, Section C: Crystal Structure Communications (1993), C49(5), 878-81

CODEN: ACSCEE; ISSN: 0108-2701

DT Journal

LA English

IT 148657-99-2

RL: PRP (Properties)

(crystal structure of)

RN 148657-99-2 CAPLUS

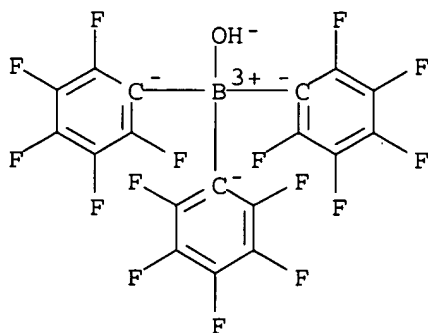
CN Tantalum(1+), hydroxymethylbis[(1,2,3,4,5-.eta.)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]-, (T-4)-hydroxytris(pentafluorophenyl)borate(1-)
(9CI) (CA INDEX NAME)

CM 1

CRN 148657-98-1

CMF C18 H B F15 O

CCI CCS

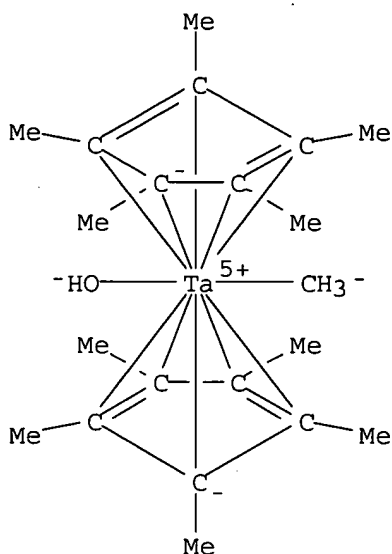


CM 2

CRN 148657-97-0

CMF C21 H34 O Ta

CCI CCS



AB The title compd. is monoclinic, space group $P2_1/n$, a 12.217(2), b 16.848(6), c 18.834(3) .ANG., .beta. 100.37(2).degree., $Z = 4$, $dc = 1.75$, room temp., $R = 0.031$ for 3534 reflections. At. coordinates are given. The Ta cation has the expected geometry, with Ta-C and Ta-O distances 2.211(6) and 1.865(5) .ANG., resp. The anion was not characterized previously; its geometry is irregular with tetrahedral angles at B ranging from 103.6(6) to 113.8(6).degree. and systematic angular distortions in the C6F5 rings.

L4 ANSWER 148 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1993:255062 CAPLUS

DN 118:255062

TI Structure of a zirconoxyborane having a zirconium-fluorine-carbon bridge

AU Siedle, A. R.; Newmark, R. A.; Lamanna, W. M.; Huffman, J. C.

CS 3M Corp. Res. Lab., St. Paul, MN, 55144, USA

SO Organometallics (1993), 12(5), 1491-2

CODEN: ORGND7; ISSN: 0276-7333

DT Journal

LA English

IT 147892-18-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dimethylzirconocene)

RN 147892-18-0 CAPLUS

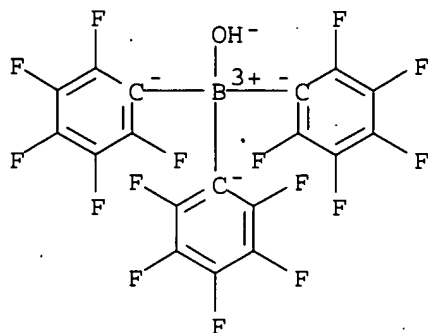
CN Borate(1-), hydroxytris(pentafluorophenyl)-, (T-4)-, hydrogen, compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 147892-17-9

CMF C18 H B F15 O . H

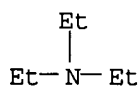
CCI CCS

● H⁺

CM 2

CRN 121-44-8

CMF C6 H15 N



AB Reaction of [Et₃NH][C(C₆F₅)₃BOH] with (Me₅C₅)₂ZrMe₂ produces methane and (Me₅C₅)₂ZrOB(C₆F₅)₃. The structure reveals a (C₆F₅)₃B-O moiety coordinated to zirconium. One of the C₆F₅ groups is oriented so that its ortho fluorine forms a Zr-F-C bridge. The ¹⁹F NMR spectrum at -88.degree. reveals a static structure in which the shielded Zr-F-C fluorine resonates at -190.3 ppm. As the temp. is raised, all 3 C₆F₅ rings interconvert at the same rate in a process for which .DELTA.G.thermod. = 10 +/- 0.5 kcal mol⁻¹.

L4 ANSWER 149 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1993:131359 CAPLUS

DN 118:131359

TI Use of hydroxytriphenylborates to treat waste streams

IN Sullivan, Jeffrey M.

PA USA

SO U.S., 2 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5144063	A	19920901	US 1991-729143	19910712
				US 1991-729143	19910712
IT	146142-75-8 146438-27-9				

Patel

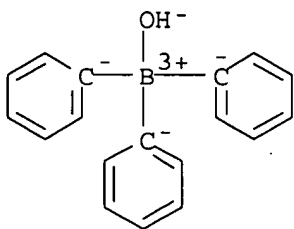
9/24/2003>

RL: PROC (Process)

(for cesium removal from wastewaters, by pptn.)

RN 146142-75-8 CAPLUS

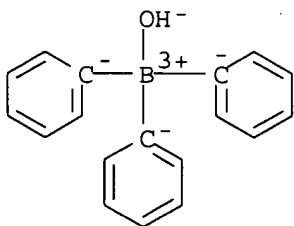
CN Borate(1-), hydroxytriphenyl-, cesium, (T-4)- (9CI) (CA INDEX NAME)



● Cs⁺

RN 146438-27-9 CAPLUS

CN Borate(1-), hydroxytris(methylphenyl)-, cesium (9CI) (CA INDEX NAME)



3 (D1-Me)

● Cs⁺

AB The Cs contained in the waste streams, e.g., from nuclear fission plant effluents or cesium ore digestion, is removed by adding hydroxytriarylborate ions to form a cesium hydroxytriarylborate ppt. (e.g., cesium hydroxytriphenylborate).

L4 ANSWER 150 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

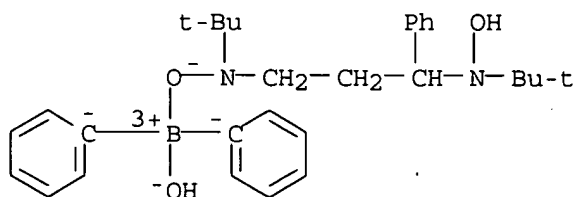
AN 1993:102026 CAPLUS

DN 118:102026

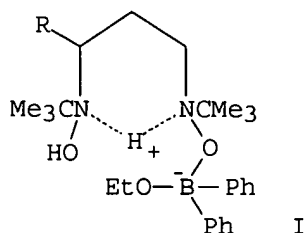
TI Structural studies of organoboron compounds. LV. N,N'-Di-tert-butyl-N,N'-dihydroxypropane-1,3-diamine(O-B)ethoxydiphenylborane and N1,N2-di-tert-butyl-N1,N2-dihydroxy-1-phenylpropane-1,3-diamine(N2-O-B)hydroxydiphenylborane

AU Kliegel, Wolfgang; Lubkowitz, Gottfried; Rettig, Steven J.; Trotter, James

CS Inst.: Pharm. Chem., Tech. Univ. Braunschweig, Braunschweig, 3300, Germany
 SO Canadian Journal of Chemistry (1992), 70(7), 2033-9
 CODEN: CJCHAG; ISSN: 0008-4042
 DT Journal
 LA English
 OS CASREACT 118:102026
 IT **146026-50-8P**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and crystal structure of)
 RN 146026-50-8 CAPLUS
 CN Borate(1-), [N,N'-bis(1,1-dimethylethyl)-N,N'-dihydroxy-1-phenyl-1,3-propanediaminato-O3]hydroxydiphenyl-, hydrogen, (T-4)- (9CI) (CA INDEX NAME)



GI



AB The 1,3-propanediamine derivs. N,N'-di-tert-butyl-N,N'-dihydroxy-1,3-propanediamine and N,N'-di-tert-butyl-N,N'-dihydroxy-1-phenyl-1,3-propanediamine were prepd. and reacted with oxybis(diphenylborane) to yield, resp., the cryst. organoboron title compds. I (R = H, Ph). The crystal structure detn. of I (R = H, Ph) showed that the compds. are open-chain hydroxylamine adducts of diphenylborinic acid and Et diphenylborinate, resp. Both of these compds. are stabilized by a system of three intramol. hydrogen bonds (O-H.cntdot..cntdot..cntdot.O, N-H.cntdot..cntdot..cntdot.O, and N-H.cntdot..cntdot..cntdot.N).

L4 ANSWER 151 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

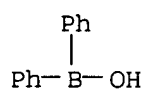
AN 1992:426608 CAPLUS

DN 117:26608

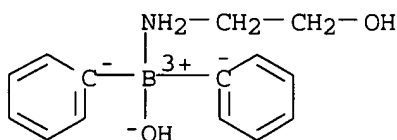
TI Through-bond modulation of N .fwdarw. B ring formation shown by NMR and x-ray diffraction studies of borate derivatives of pyridyl alcohols

AU Farfan, Norberto; Castillo, Dolores; Joseph-Nathan, Pedro; Contreras,

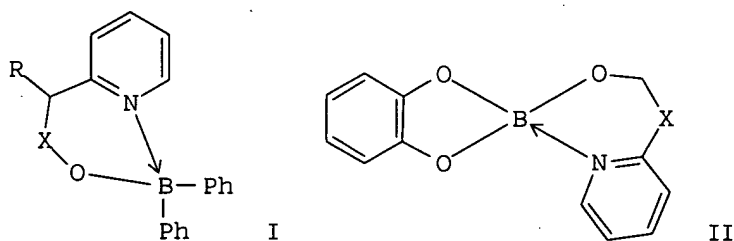
Rosalinda; Szentpaly, Laszlo V.
 CS Cent. Invest. Estud. Avanzados, Inst. Politec. Nac., Mexico City, 07000, Mex.
 SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1992), (4), 527-32
 CODEN: JCPKBH; ISSN: 0300-9580
 DT Journal
 LA English
 OS CASREACT 117:26608
 IT **2622-89-1**, Diphenylborinic acid **141696-41-5**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclocondensation reaction of, with pyridyl alcs.)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 141696-41-5 CAPLUS
 CN Boron, (2-aminoethanol-N)hydroxydiphenyl-, (T-4)- (9CI) (CA INDEX NAME)



GI

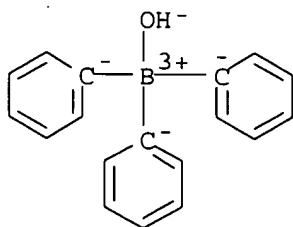


AB The prepn. of diphenyl(2-pyridylalkyloxy-O,N)boranes I (X = -, R = H, Me, Ph; X = CH2, R = H), benzene-1,2-diylldioxy(2-pyridylalkyloxy-O,N)boranes II (X = -, CH2) starting from the corresponding pyridyl alcs. are reported. The cyclic structures I (X = -, R = H) and I (X = CH2, R = H) were established by x-ray diffraction studies, the N .fwdarw. B bond distances being 1.642 .ANG. and 1.685 .ANG. resp. Complete assignment of the 1H and 13C NMR spectra of compds. was achieved from two dimensional HETCOR data. Addnl. evidence for the strength of the five- and six-membered rings in boron esters was obtained from variable-temp. measurements which show partial ring opening for the six-membered ring compds. at 180.degree.. The observation that five-membered rings are more stable than six-membered ones is attributed to sigma-assistance by

through-bond interactions.

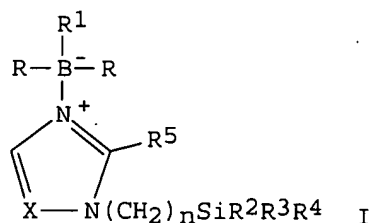
L4 ANSWER 152 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1992:255804 CAPLUS
 DN 116:255804
 TI Preparation of trisubstituted silylalkyl 1,2,4-triazole and imidazole
 phenyl borane derivatives
 IN Tsang, Tsze H.; Spadafora, Vincent J.
 PA Chevron Research and Technology Co., USA
 SO U.S., 23 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5091377	A	19920225	US 1990-628806	19901214
	CA 2057193	AA	19920615	CA 1991-2057193	19911206
				US 1990-628806	19901214
	EP 490703	A1	19920617	EP 1991-311629	19911213
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
				US 1990-628806	19901214
	JP 05170775	A2	19930709	JP 1991-361025	19911216
				US 1990-628806	19901214
OS	MARPAT 116:255804				
IT	12113-07-4				
	RL: RCT (Reactant); RACT (Reactant or reagent) (cyclization of)				
RN	12113-07-4 CAPLUS				
CN	Borate(1-), hydroxytriphenyl-, sodium, (T-4)-(9CI) (CA INDEX NAME)				



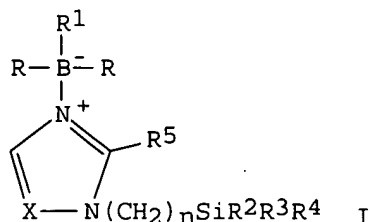
● Na⁺

GI



Patel

9/24/2003>



AB Title compds. I [R = styryl, (substituted) Ph, (substituted) PhO; R1, R4 = C1-4 alkyl, C3-6 cycloalkyl, C2-6 alkenyl, halo-C3-6-alkenyl; (substituted) Ph; R2, R3 = (substituted) Ph; R5 = H, C1-4 alkyl; X = HC, N; n = 1, 2], useful as agrochem. fungicides, are prepd. MeMgBr in THF was added under N to 2-aminoethyl diphenylborinate (prepn. given), the mixt. refluxed for 2 h, cooled and treated with 1-[bis(4-fluorophenyl)methylsilylmethyl]-1H-1,2,4-triazole to give after work-up I (R = Ph, R1 = R4 = Me, R2 = R3 = 4-FC6H4, R5 = H, X = N; n = 1) (II). II at 200 ppm controlled 100% celery late blight, bean powdery mildew, and bean rust.

L4 ANSWER 153 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:631834 CAPLUS

DN 115:231834

TI Preparation of haloterphenyls as liquid crystal components

IN Poetsch, Eike; Meyer, Volker; Bartmann, Ekkehard; Hittich, Reinhard; Rieger, Bernhard; Reiffenrath, Volker; Coates, David; Greenfield, Simon

PA Merck Patent G.m.b.H., Germany

SO Eur. Pat. Appl., 31 pp.

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 439089	A1	19910731	EP 1991-100675	19910121
	EP 439089	B1	19950712		
	R: DE, GB				
				DE 1990-4002145	19900125
				DE 1990-4004098	19900210
				DE 1990-4004649	19900215
				DE 1990-4007040	19900307
	DE 4101543	A1	19910801	DE 1991-4101543	19910119
				DE 1990-4002145	19900125
				DE 1990-4004098	19900210
				DE 1990-4004649	19900215
				DE 1990-4007040	19900307

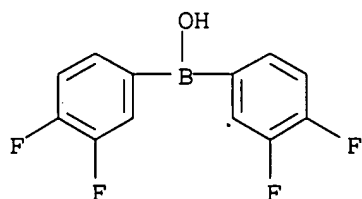
OS MARPAT 115:231834

IT 137069-61-5

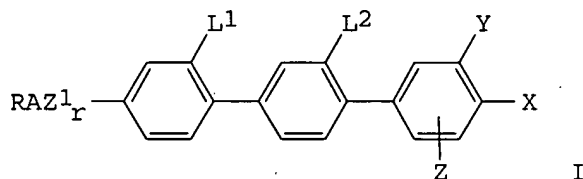
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of liq. crystal compd.)

RN 137069-61-5 CAPLUS

CN Borinic acid, bis(3,4-difluorophenyl)- (9CI) (CA INDEX NAME)



GI



I

AB Title compds. (I; A = trans-1,4-cyclohexylenediyl, 1,4-phenylenediyl, bond; R = CnH2n+1; X = F, Cl, CF3, OCF3, OCHF2; 1 of L1,L2,Y,Z = F and the others = H or F; Z1 = C2H4; n = 1-7; r = 0,1) were prepd. Thus, 4-pentyl-2-fluoro-4'-bromobiphenyl was refluxed 6 h with bis(3,4-difluorophenyl)boric acid in PhMe contg. (Ph3P)4Pd and aq. Na2CO3 to give I (R = pentyl, A = bond, L1 = Y = X = F, L2 = Z = H, r = 0).

L4 ANSWER 154 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:578852 CAPLUS

DN 115:178852

TI Method and apparatus for assay of biogenic amines by HPLC and electrochemical detection

IN Damjanovic, Dragana

PA Can.

SO U.S., 55 pp.
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5011608	A	19910430	US 1988-273449	19881118
				US 1988-273449	19881118

IT 71173-48-3

RL: ANST (Analytical study)

(in biogenic amine extn. for anal. by HPLC with electrochem. detection)

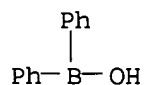
RN 71173-48-3 CAPLUS

CN Borinic acid, diphenyl-, compd. with 2-aminoethanol (1:1) (9CI) (CA INDEX NAME)

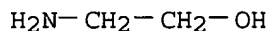
CM 1

CRN 2622-89-1

CMF C12 H11 B O



CM 2

CRN 141-43-5
CMF C2 H7 N O

AB A method for assaying biogenic amines, including catecholamines and other small mol. wt. compds., uses a boric acid extn. method followed by HPLC sepn. in conjunction with electrochem. detection. The method utilizes high-purity chem. and liq. components, a microparticulate silica-bonded Ph stationary phase in the chromatog. column, and special cleaning and maintenance measures for the various components of the assaying app., which result in reduced baseline noise and allow the electrochem. cell to be operated at a sensitivity of .1toeq.1 nA full-scale deflection on a continuous basis.

L4 ANSWER 155 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:440677 CAPLUS

DN 115:40677

TI Synthesis and spectroscopic and x-ray structural characterization of the first homoleptic transition-metal boryloxides [Mn(OBTrip2)(.mu.-OBTrip2)]₂ and [Fe(OBMes2)(.mu.-OBMes2)]₂

AU Chen, Hong; Power, Philip P.; Shoner, Steven C.

CS Dep. Chem., Univ. California, Davis, CA, 95616, USA

SO Inorganic Chemistry (1991), 30(14), 2884-8

CODEN: INOCAJ; ISSN: 0020-1669

DT Journal

LA English

IT 134627-61-5P 134627-63-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and crystal structure of)

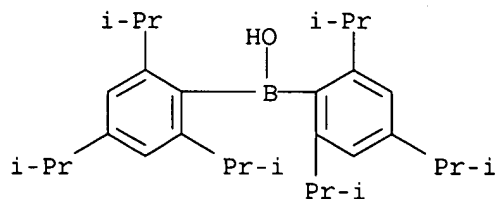
RN 134627-61-5 CAPLUS

CN Borinic acid, bis[2,4,6-tris(1-methylethyl)phenyl]-, manganese(2+) salt, compd. with hexane (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 134627-60-4

CMF C30 H47 B O . 1/2 Mn



● 1/2 Mn(II)

CM 2

CRN 110-54-3

CMF C6 H14

Me—(CH₂)₄—Me

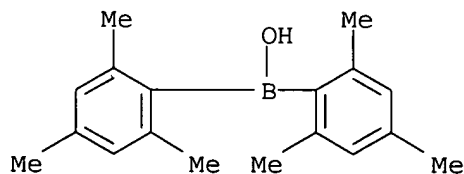
RN 134627-63-7 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)-, iron(2+) salt, compd. with methylbenzene (1:1) (9CI). (CA INDEX NAME)

CM 1

CRN 134627-62-6

CMF C18 H23 B O . 1/2 Fe

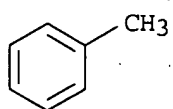


● 1/2 Fe(II)

CM 2

CRN 108-88-3

CMF C7 H8



AB The reactions of $\text{Mn}[\text{N}(\text{SiMe}_3)_2]_2$ and $\text{Fe}[\text{N}(\text{SiMe}_3)_2]_2$ with the sterically crowded boronous acids Trip2BOH and Mes2BOH (Trip = 2,4,6-i-Pr₃C₆H₂, Mes = 2,4,6-Me₃C₆H₂) afford $[\text{Mn}(\text{OBTrip}_2)(\mu\text{-OBTrip}_2)]_2$ (I) and $[\text{Fe}(\text{OBMes}_2)(\mu\text{-OBMes}_2)]_2$ (II), which are the first two examples of homoleptic transition-metal boryloxides. The x-ray crystal structures of I and II have also been detd. The data show that both are dimeric with 3-coordinate Mn and Fe centers that are bound to 1 terminal boryloxide ligand and to 2 bridging boryloxide ligands. The M-M distances (3.094(5) for Mn and 3.057(5) .ANG. for Fe) are considerably longer than those found in the amide precursors. Surprisingly, the metric features of I and II are very close to those obsd. in the closely related bis(aryloxo) complexes $[\text{M}(\text{OAr})_2]_2$ (Ar = 2,4,6-tert-Bu₃C₆H₂, M = Mn, Fe). This suggests that the M-O bonding is similar: furthermore, it is mainly ionic and little evidence for a .pi.-contribution to the M-O bond could be obsd. I and II have also been characterized by magnetic measurements. Crystallog. data at 130 K: I.C₆H₁₄, a 33.898(11), b 16.985(5), c 30.861(11) .ANG., .beta. 134.65(2).degree., Z = 4, R = 0.088, space group C2/c; II.2C₆H₅CH₃, a 15.004(5), b 14.957(4), c 16.915(6) .ANG., .beta. 93.86(3).degree., Z = 2, R = 0.074, space group P2₁/n.

L4 ANSWER 156 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:429621 CAPLUS

DN 115:29621

TI Preparation of imidazolyldiphenylborane inner salts as agrochemical fungicides

IN Tsang, Tsze H.; Spadafora, Vincent J.; Pomidor, Patricia

PA Chevron Research and Technology Co., USA

SO U.S., 25 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4983589	A	19910108	US 1989-450872	19891214
	US 5051514	A	19910924	US 1990-587819	19900925
				US 1989-450872	19891214
	ZA 9009603	A	19910925	ZA 1990-9603	19901129
				US 1989-450872	19891214
	EP 432987	A2	19910619	EP 1990-313379	19901210
	EP 432987	A3	19911127		
	R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE				
	CA 2031980	AA	19910615	US 1989-450872	19891214
				CA 1990-2031980	19901211
				US 1989-450872	19891214
	BR 9006317	A	19910924	BR 1990-6317	19901212
				US 1989-450872	19891214
	AU 9067979	A1	19911024	AU 1990-67979	19901212
	AU 635800	B2	19930401		
				US 1989-450872	19891214

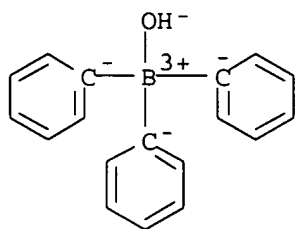
OS MARPAT 115:29621

IT 12113-07-4

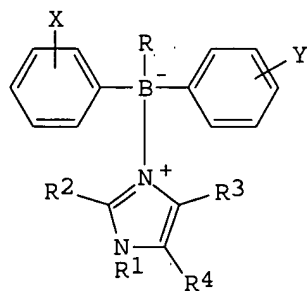
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of agrochem. fungicide)

RN 12113-07-4 CAPLUS

CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



GI



I

AB Title compds. I [R = (halo)alkyl, (halo)alkenyl, cycloalkyl; R1 = R, cycloalkyl, hydroxyalkyl, alkoxyalkyl, (substituted) Ph, PhCH₂, 1,3-dioxolan-2-ylalkyl, etc.; R2 = H, alkyl, Ph, (substituted) PhCH₂; R3 = H, alkyl; R4 = H, alkyl, Ph, phenylalkyl; X, Y = H, F, Cl, alkoxy, alkylthio, (halo)alkyl], were prepd. Thus, 2-aminoethyl diphenylborinate in THF (prepn. given) was treated with vinylmagnesium bromide and then with 1-vinylimidazole to give title compd. II. II at 2.0 ppm gave 100% control of Erysiphe polygoni on bean seedlings.

L4 ANSWER 157 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:408258 CAPLUS

DN 115:8258

TI Cross-coupling of organometallic compounds with halides or perfluoroalkylsulfonates in the presence of a metallic palladium catalyst

IN Poetsch, Eike; Meyer, Volker; Stahl, Klaus Peter

PA Merck Patent G.m.b.H., Germany

SO Ger., 15 pp.

CODEN: GWXXAW

DT Patent

LA German

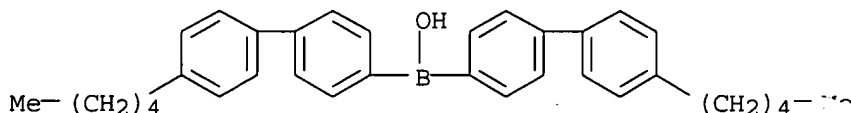
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3930663	C1	19901115	DE 1989-3930663	19890914
	DD 297637	A5	19920116	DD 1990-343980	19900912

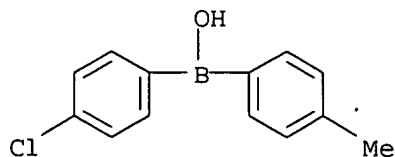
Patel

9/24/2003>

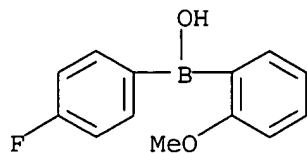
JP 03123736 A2 19910527 DE 1989-3930663 19890914
 JP 2907979 B2 19990621 JP 1990-242851 19900914
 OS MARPAT 115:8258 DE 1989-3930663 19890914
 IT **134149-94-3P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and coupling with bromobenzonitrile)
 RN 134149-94-3 CAPLUS
 CN Borinic acid, bis(4'-pentyl[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



AB Terphenyls, cyclohexylbiphenyls, phenylbicycl
 heterocycles were prepd. by the title reactio
 4-Me(CH₂)₄C₆H₄C₆H₄MgBr-4 reacted with tri-is
 product treated with 10% aq. HCl to give 4'-
 acid, 5.4 g of which was coupled with 4-BrC₆
 of Na₂CO₃ and a Pd/C catalyst in toluene to
 4-cyano-4''-pentyl-p-terphenyl.
 L4 ANSWER 158 OF 309 CAPLUS COPYRIGHT 2003 ACC
 AN 1991:207315 CAPLUS
 DN 114:207315
 TI Synthesis of aromatic nitrogen-containing heterocyclic derivatives of
 asymmetric diarylborinic acids
 AU Shan, Zixing; Zhao, Dejie; Yuan, Guozheng; Zhang, Guomin
 CS Dep. Chem., Wuhan Univ., Wuhan, Peop. Rep. China
 SO Wuhan Daxue Xuebao, Ziran Kexueban (1990), (3), 67-72
 CODEN: WTHPDI; ISSN: 0253-9888
 DT Journal
 LA Chinese
 OS CASREACT 114:207315:
 IT **115105-75-4 127844-15-9 133563-62-9**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with pyridinecarboxylic acid)
 RN 115105-75-4 CAPLUS
 CN Borinic acid, (4-chlorophenyl)(4-methylphenyl)- (9CI) (CA INDEX NAME)

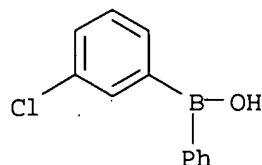


RN 127844-15-9 CAPLUS
 CN Borinic acid, (4-fluorophenyl)(2-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 133563-62-9 CAPLUS

CN Borinic acid, (3-chlorophenyl)phenyl- (9CI) (CA INDEX NAME)



AB Eleven new asym. diarylborinic acids chelated with arom. N-contg. heterocyclic ligands have been synthesized by the reactions of (m-chlorophenyl)phenylborinic acid, (p-chlorophenyl)(p-methylphenyl)borinic acid and (p-fluorophenyl)(o-methoxyphenyl)borinic acid with 2-pyridinecarboxylic acid, quinaldinic acid and 8-hydroxyquinoline, 8-hydroxyquinaldine or 5,7-dibromo-8-hydroxyquinoline. All complexes were characterized with elemental anal. and IR spectroscopy.

L4 ANSWER 159 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1991:82456 CAPLUS

DN 114:82456

TI Boronic acid catalyzed hydrolyses of salicylaldehyde imines

AU Rao, Galla; Philipp, Manfred

CS Lehman Coll., CUNY, Bronx, NY, 10468, USA

SO Journal of Organic Chemistry (1991), 56(4), 1505-12

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

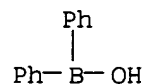
IT 2622-89-1, Diphenylborinic acid

RL: CAT (Catalyst use); USES (Uses)

(catalyst, for hydrolysis for salicylaldehyde isolucine amides, kinetics and mechanism of)

RN 2622-89-1 CAPLUS

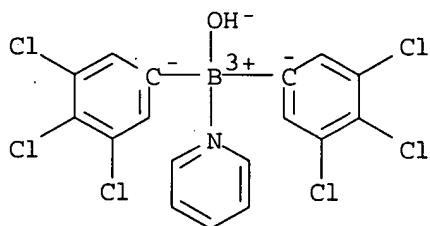
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



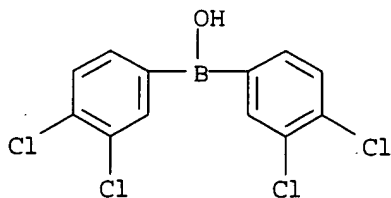
AB The hydrolysis of isoleucine salicylaldehyde imines 2-HOC₆H₄C:NCH(CHMeEt)COR (R = OH, NH₂) is catalyzed by boric acid, substituted arylboronic acids, and diphenylborinic acid. These reactions show satn. kinetics, allowing the detn. of first-order catalytic consts. and dissocn. consts. Dissocn. consts. reflect single-ionization pK values similar to the pK values of the boronic acids. Binding is best on the acid side of the pK. Use of the Broensted and the Hammett relationships shows that the binding consts. are improved by electron-withdrawing

substituents on the catalysts. Catalytic consts. are nearly independent of pH, of Hammett σ , and of the pK of the catalyst. The reactions display no solvent deuterium isotope effect.

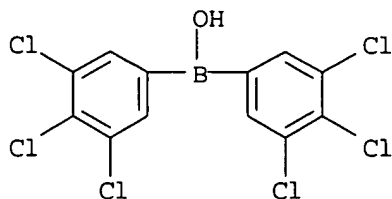
L4 ANSWER 160 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1991:24001 CAPLUS
DN 114:24001
TI A fluorine-19 NMR study of the transmissive ability of boron-containing bridged systems with three- and four-coordinated boron atoms
AU Pombrik, S. I.; Peregudov, A. S.; Kravtsov, D. N.
CS Inst. Organoelement Compd., Moscow, USSR
SO Heteroatom Chemistry (1990), 1(4), 327-32
CODEN: HETCE8; ISSN: 1042-7163
DT Journal
LA English
OS CASREACT 114:24001
IT **131006-52-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 131006-52-5 CAPLUS
CN Boron, hydroxy(pyridine)bis(3,4,5-trichlorophenyl)-, (T-4)- (9CI) (CA INDEX NAME)



IT **131112-05-5 131112-06-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with fluorophenol, fluorophenyl ester of boronic acid from)
RN 131112-05-5 CAPLUS
CN Borinic acid, bis(3,4-dichlorophenyl)- (9CI) (CA INDEX NAME)

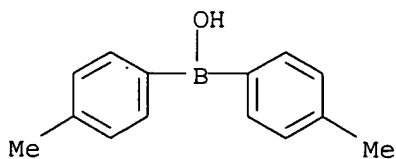


RN 131112-06-6 CAPLUS
CN Borinic acid, bis(3,4,5-trichlorophenyl)- (9CI) (CA INDEX NAME)

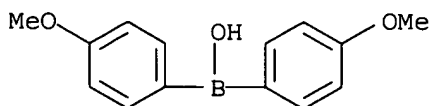


AB Two series of model compds., R₂BOC₆H₄F-4 (R = 4-tolyl, Ph, 4-ClC₆H₄, 3,4-Cl₂C₆H₃, 3,4,5-Cl₃C₆H₂) and R₂B(Py)OC₆H₄F-4, contg. three- and four-coordinated boron atoms, were synthesized from R₂BOH and 4-FC₆H₄OH. It was established by ¹⁹F NMR that both systems possess a similar transmissive ability in that intermol. coordination with pyridine does not influence the transmissive properties of the boron-oxygen binuclear bridging group. The solvent polarity does not influence the electron transmission in the boron complexes studied.

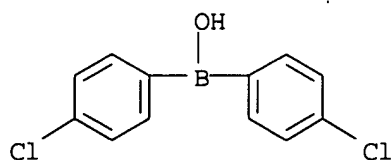
L4 ANSWER 161 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1990:441252 CAPLUS
 DN 113:41252
 TI Diaryl boron chelates of thioproline
 AU Yuan, Guozheng; Huang, Junjie; Zhang, Guomin
 CS Dep. Chem., Wuhan Univ., Wuhan, Peop. Rep. China
 SO Gaodeng Xuexiao Huaxue Xuebao (1989), 10(9), 881-5
 CODEN: KTHPDM; ISSN: 0251-0790
 DT Journal
 LA Chinese
 IT 66117-64-4 73774-45-5 89566-59-6
 96484-29-6 115105-75-4 127844-13-7
 127844-14-8 127844-15-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with thioproline)
 RN 66117-64-4 CAPLUS
 CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 73774-45-5 CAPLUS
 CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

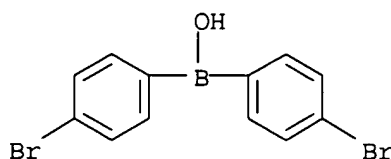


RN 89566-59-6 CAPLUS
 CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)



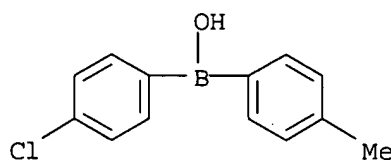
RN 96484-29-6 CAPLUS

CN Borinic acid, bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



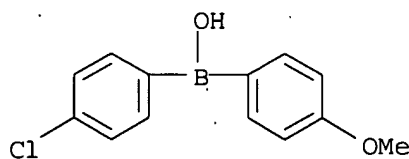
RN 115105-75-4 CAPLUS

CN Borinic acid, (4-chlorophenyl)(4-methylphenyl)- (9CI) (CA INDEX NAME)



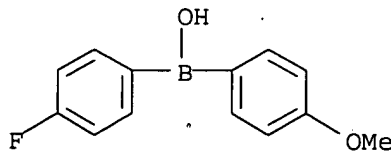
RN 127844-13-7 CAPLUS

CN Borinic acid, (4-chlorophenyl)(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



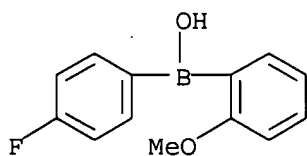
RN 127844-14-8 CAPLUS

CN Borinic acid, (4-fluorophenyl)(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

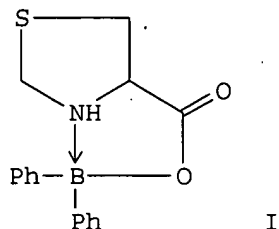


RN 127844-15-9 CAPLUS

CN Borinic acid, (4-fluorophenyl)(2-methoxyphenyl)- (9CI) (CA INDEX NAME)



GI



I

AB Nine title chelates, e.g., I were prepd. and characterized.

L4 ANSWER 162 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:411792 CAPLUS

DN 113:11792

TI Photochemical degradation rates of tetraphenylborate and diphenylboric acid sensitized by dissolved organic matter in stream water

AU Mills, Gary L.; Schwind, Donna

CS Savannah River Ecol. Lab., Univ. Georgia, Aiken, SC, 29801, USA

SO Environmental Toxicology and Chemistry (1990), 9(5), 569-74

CODEN: ETOCDK; ISSN: 0730-7268

DT Journal

LA English

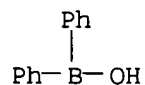
IT 2622-89-1

RL: POL (Pollutant); OCCU (Occurrence)

(water pollution by, photochem. degrdn. in, of streams)

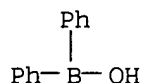
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



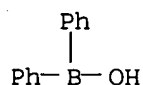
AB The photochem. degrdn. of tetraphenylborate and diphenylboric acid was studied in stream water and humic acid solns. The rates of indirect photolysis of tetraphenylborate and diphenylboric acid were similar and directly proportional to the concn. of stream water dissolved org. matter and humic acid for values <10 mg/L. Direct photolysis of both organoboron compds. was nondetectable during a 2-h irradiation period. Indirect photolysis rates varied only slightly from pH 6.0 to 9.0, but increased markedly below pH 6.0. Removal of dissolved O increased reaction rates by a factor of 2, indicating that the reaction mechanism does not involve singlet O oxygenation.

L4 ANSWER 163 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1990:153203 CAPLUS
DN 112:153203
TI Surface-facilitated chemical degradation of tetraphenylboron in soil
AU Mills, Gary L.; Kaplan, Daniel; Schwind, Donna; Adriano, Domy
CS Savannah River Ecol. Lab., Univ. Georgia, Aiken, SC, 29801, USA
SO Journal of Environmental Quality (1990), 19(1), 135-40
CODEN: JEVQAA; ISSN: 0047-2425
DT Journal
LA English
IT 2622-89-1
RL: BIOL (Biological study)
(as tetraphenylboron degrdn. product, in soil)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Lab. studies were conducted to examine the surface-promoted degrdn. of tetraphenylboron (TPB) in soil. The results indicated that TPB degrades rapidly in soil and that the processes involved are predominately abiotic reactions. The initial products of degrdn. of TPB are diphenylborinic acid (DPBA) and biphenyl. A portion of the DPBA produced subsequently degrades to produce boric acid. However, only about 20% of the total B added initially to the soil as TPB was accounted for by the measured species at the end of the expt. Most of the remaining B appears to be present in moderately stable org. compds. Comparison of the degrdn. rates in different soils indicated that the rates in the surface soil were somewhat higher than in the subsoil. The only measured characteristic of these soils that follows a corresponding trend is soil org. matter content. Addnl. expts. indicated that rates of the initial reaction was inversely related to soil moisture content. Obsd. reaction products indicate that the initial step in the degrdn. process is a two-step oxidn. of Lewis acid sites assocd. with soil component surfaces.

L4 ANSWER 164 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1990:132533 CAPLUS
DN 112:132533
TI Solvent extraction and high performance liquid chromatography with electrochemical detection for determination of plasma catecholamines
AU Zhang, Lian; Zhao, Weikang
CS Dep. Biochem., Shanghai Coll. Tradit. Chin. Med., Shanghai, 200032, Peop. Rep. China
SO Zhongguo Yaoli Xuebao (1989), 10(6), 572-5
CODEN: CYLPDN; ISSN: 0253-9756
DT Journal
LA Chinese
IT 2622-89-1
RL: BIOL (Biological study)
(in catecholamine extn. from blood plasma, for HPLC)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB A technique for selectively extg. plasma catecholamines prior to quantification by HPLC-electrochem. detection is described. The extn. system was a 2-stage process. The first stage involved complex formation between the diphenylborate and catechol (diol) groups in alk. medium. The second stage was a liq.-liq. extn. The complex combined with tetraoctyl-ammonium bromide to form an ion-pair in org. solvent. The catecholamines in turn were extd. with acid. This technique provided a very specific extn. procedure which resulted in chromatograms with few interfering compds. and gave abs. recoveries (100-103%) of norepinephrine, epinephrine, and dopamine. Meanwhile, the plasma catecholamines were concd. and the sensitivity of detection was increased. A good linear relationship was found between the concns. and ratio of peak heights of the catecholamines from 0.125-2 ng. The correlation coeff. ranged 0.998-0.999. The relative std. deviations of the intra- and inter-assay were within 3% and 6%, resp. The results show that the procedure is very simple and fast. The method is valuable not only for clin. diagnosis but also for lab. research.

L4 ANSWER 165 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1990:118888 CAPLUS

DN 112:118888

TI Bora-aromatic systems. Part 10. Aromatic stabilization of the triarylborirene ring system by tricoordinate boron and facile ring-opening with tetracoordinate boron

AU Eisch, John J.; Shafii, Babak; Odom, Jerome D.; Rheingold, Arnold L.

CS Dep. Chem., State Univ. New York, Binghamton, NY, 13901, USA

SO Journal of the American Chemical Society (1990), 112(5), 1847-53
CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

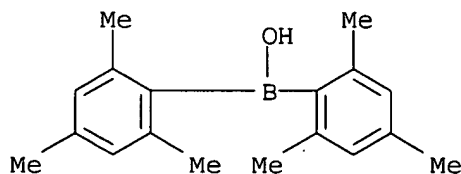
OS CASREACT 112:118888

IT 20631-84-9P

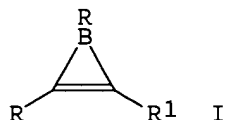
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 20631-84-9 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)

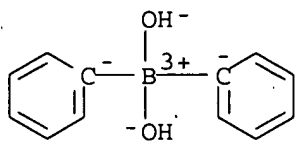


GI



AB To remove uncertainties in the apparent C:C and B-C bond lengths of the borirene ring, as previously estd. from an X-ray crystallog. anal. of trimesitylborirene, the unsym. substituted 2-(2,6-dimethylphenyl)-1,3-dimesitylborirene I (R = mesityl, R1 = 2,6-Me2C6H3) was prepd. by the photorearrangement of [(2,6-dimethylphenyl)ethynyl]dimesitylborane. With such an unsym. borirene there was no disorder in the identity of the ring atoms, and all three ring atom sepns. could be unambiguously assigned. Compared with the reported C:C bond length in cyclopropene (1.304 .ANG.), the C:C bond in the borirene has been lengthened by 0.08 .ANG., and compared with the reported C-B bond length in trivinylborane (1.558 .ANG.), ring C-B bonds have been shortened by an av. of 0.10 .ANG.. These altered bond lengths are fully consistent with those expected if the two ring .pi.-electrons are extensively delocalized among the three sp2-hybridized ring atoms. Therefore, the borirene ring can truly be considered as a Hueckel arom. nucleus. In order to corroborate that cyclic conjugation led to C-C bond lengthening, the open-chain precursor to the borirene ring, namely dimesityl(mesitylethynyl)borane was also examd. by x-ray crystallog. In this system the C.tplbond.C bond showed no unusual lengthening and hence gave no indication of significant conjugation with the tricoordinate boron. When the tricoordinate boron of the borirene ring becomes tetracoordinate by ligation with an amine, such as pyridine, or a sterically suitable alc. like MeOH or EtOH, the borirene ring is promptly ruptured and, in the presence of a proton source, irreversibly converted into an acyclic borinic ester. Such rupture of the borirene ring by pyridines can be monitored by electronic and multinuclear NMR spectroscopy. These observations corroborate the role of the available 2pz-orbital on sp2-hybridized boron in stabilizing the borirene ring.

L4 ANSWER 166 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1989:546906 CAPLUS
 DN 111:146906
 TI A general method for the quantitative determination of catecholamines in body fluids using off-line sample pretreatment and HPLC-ED analysis
 AU Bauch, H. J.; Struwer, E.; Kelsch, U.
 CS Inst. Arterioskleroseforsch., Univ. Muenster, Muenster, D-4400, Fed. Rep. Ger.
 SO Chromatographia (1989), 28(1-2), 78-84
 CODEN: CHRGB7; ISSN: 0009-5893
 DT Journal
 LA English
 IT 83075-94-9
 RL: BIOL (Biological study)
 (in catecholamine-contg. sample prepn. for HPLC)
 RN 83075-94-9 CAPLUS
 CN Borate(1-), dihydroxydiphenyl-, (T-4)- (9CI) (CA INDEX NAME)



AB Reversed phase HPLC with electrochem. detection (HPLC-ED) was used for quant. detn. of adrenaline, noradrenaline, and dopamine in several complex biol. matrixes, including plasma, uremic plasma, and urine. Three different methods of sample prepn. for clin. use were tested. These were: adsorption of catecholamines on alumina, org. solvent extn. after complex formation with diphenylborate, and adsorption of catecholamines on a cation exchange gel followed by org. solvent extn. of the elute. The selectivity and precision of the 3 methods were evaluated. The org. solvent extn. proved to be more precise and selective than adsorption on alumina (adrenaline: relative std. deviation (rsd) = 3.80 vs. 7.58%; noradrenaline: rsd = 1.7 vs. 4.26%); it also proved suitable for use in the routine quant. detn. of catecholamines in plasma from patients with normal renal function (creatinine <1.2 mg/dL). However when working with uremic plasma or urine, a more selective sample prepn. was required. In this case the adsorption of catecholamines on a cation exchange gel followed by org. solvent extn. of the elute was sufficiently selective and precise and thus allowed a reliable quant. detn. of adrenaline and noradrenaline from rather complex biol. matrixes (adrenaline: rsd = 6.2%; noradrenaline: rsd = 2.8%). This specific method showed that basal plasma catecholamine levels in dialysis patients are comparable to those in patients with normal renal function (adrenaline: 47.7 pg/mL; noradrenaline: 310.3 pg/mL).

L4 ANSWER 167 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1989:453523 CAPLUS

DN 111:53523

TI Separation and determination of .alpha.-amino acids by boroxazolidone formation

AU Strang, Candace J.; Henson, Edward; Okamoto, Yoshiaki; Paz, Mercedes A.; Gallop, Paul M.

CS Child. Hosp., Harvard Sch. Med., Boston, MA, 02115, USA

SO Analytical Biochemistry (1989), 178(2), 276-86

CODEN: ANBCA2; ISSN: 0003-2697

DT Journal

LA English

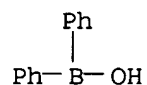
IT 2622-89-1

RL: ANST (Analytical study)

(amino acids derivatization by, for reversed-phase HPLC)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



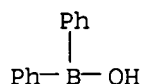
IT 2622-89-1DP, reaction products with amino acids

RL: PREP (Preparation)

(prepn. of)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Reaction of an .alpha.-amino acid (.alpha.-AA) with 1,1-diphenylborinic acid (DPBA) leads to the formation of a kinetically stable adduct at pH 2-5 in which both the .alpha.-amino and the .alpha.-carboxyl groups are bound to B forming a cyclic mixed anhydride termed a boroxazolidone. In this adduct, the >N:B bond is coordinate, involving the free electron pair of N, thereby satisfying the octet rule for the 2nd electron shell of B (Group IIIA). Consequently, the .alpha.-amino function of the boroxazolidone can be primary, secondary, or tertiary, as demonstrated by boroxazolidone formation with glycine, N-methylglycine, and N,N-dimethylglycine. On reaction with DPBA, the .alpha.-AA moiety of N-terminal .gamma.-glutamyl peptides is also derivatized as demonstrated by the formation of a glutathione boroxazolidone. The 1,1-diphenylboroxazolidone adducts of .alpha.-AA may be sepd. by reversed-phase (RP)-HPLC (AA-DPBA/RP-HPLC) enabling the derivatization procedure to be used as a precolumn reaction for .alpha.-AA anal. Under the conditions described, DPBA is not stably reactive with the .epsilon.-amino group of lysine. Furthermore, it does not complex with amide bonds of the peptide backbone or to any side chains of the common amino acids. Reaction of an .alpha.-AA mixt. with DPBA, followed by RP-HPLC (AA-DPBA/RP-HPLC) is then a simple method by which to analyze .alpha.-AA in a mixt. with peptides and amines. Precolumn reaction with DPBA may be used to sep. peptides from .alpha.-AA and from those peptides which contain an .alpha.-AA moiety. Unreacted peptides are bound only weakly to the HPLC column and thus are sepd. from reacted .alpha.-amino acids which are retained as 1,1-diphenylboroxazolidones until their selective elution. This method is particularly suited for the anal. of .alpha.-amino acids that are derived from post-translational modification of protein side chains.

L4 ANSWER 168 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1989:228148 CAPLUS

DN 110:228148

TI Formation of analyzable boron-containing adducts

IN Gallop, Paul M.; Henson, Edward; Flueckiger, Rudolf

PA Children's Medical Center Corp., USA

SO U.S., 11 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4713346	A	19871215	US 1986-825619	19860203
				US 1986-825619	19860203

OS CASREACT 110:228148

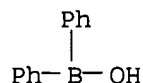
IT 2622-89-1

RL: RCT (Reactant); RACT (Reactant or reagent)

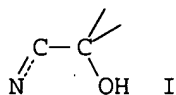
(reaction of, with org. compds. to form analyzable adducts)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI



AB A method of forming analyzable adducts in a mixt. of org. compds. comprises contacting the mixt. with a B reagent XB(Y)OH (X, Y = C1 to eq. 12 alkyl, C6-20 aryl) or BZ3 (Z = X). The compds. in the mixt. contain the functionality I (OH is hydroxy or part of carboxyl group; N is part of amino, imino, or arom. heterocyclic group), e.g. protein hydrolyzate, α -amino acids, 2-carboxypyrazines, γ -glutamyl peptides. Alternatively, the compds. are primary or secondary alcs. or amines or are ketones or aldehydes and are reacted with reagents to form a product contg. the reactive functionality and -C(O)NHN:C1 (C1 = carbonyl C of ketone or aldehyde) before contacting with the B reagent. The anal. is performed by HPLC, TLC, or mass spectroscopy and the adducts are detected by UV absorption. Amino acids were reacted with an equimolar amt. of diphenylborinic acid (DPBA) or the resp. molar excess if other than 1:1 complexes could result, in EtOH:H₂O (1:1) at 60-70.degree. for 15 min. Thirteen amino acid:DPBA adducts were mixed together and sepd. by HPLC on μ Bondapak C-18.

L4 ANSWER 169 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1989:108309 CAPLUS

DN 110:108309

TI Automated HPLC catecholamine determination in plasma: clean-up through complex formation with diphenylborinic acid

AU Ni, P.; Guyon, F.; Caude, M.; Rosset, R.

CS Lab. Chim. Anal., Ec. Super. Phys. Chim. Paris, Paris, 75231, Fr.

SO Analisis (1988), 16(9-10), 484-90

CODEN: ANLSCY; ISSN: 0365-4877

DT Journal

LA French

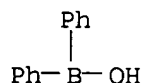
IT 2622-89-1D, Diphenylborinic acid, catecholamine complexes

RL: FORM (Formation, nonpreparative)

(formation of, for catecholamine detn. in blood plasma by HPLC)

RN 2622-89-1 CAPLUS

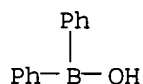
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



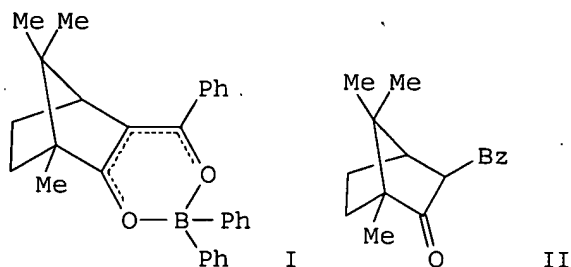
AB Detn. of catecholamines (adrenaline, noradrenaline, and dopamine) in plasma can be carried out by extn. and clean-up on precolumn (octadecyl

bonded silica gel), by formation of hydrophobic complexes with diphenylborinate anion in basic medium. The catecholamines were resolved online by ion-pair chromatog. with SDS as counterion and octadecyl bonded silica gel as stationary phase (acetonitrile-phosphate buffer 0.05 M, pH = 2.8, 20-80 vol./vol.). The method can be automated using the AASP system (Advanced Automated Sample Processor). The total anal. time is 20 min. The measured reproducibility is close to 10% for 100 ng/L. The detection limits are 5 ng/L for adrenaline and noradrenaline and 3.5 ng/L for dopamine when using electrochem. detection. The formation of diphenylborinate complexes increases the catecholamine stability. Consequently the cartridge stock duration can reach 12 h at room temp. and 24 h at 5.degree..

L4 ANSWER 170 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1989:95554 CAPLUS
DN 110:95554
TI Structural studies of organoboron compounds. XXXI. (3-Benzoyl-(+)-camphorato)diphenylboron
AU Cullen, William R.; Rettig, Steven J.; Trotter, James; Wickenheiser, Eugene B.
CS Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
SO Canadian Journal of Chemistry (1988), 66(8), 2007-13
CODEN: CJCHAG; ISSN: 0008-4042
DT Journal
LA English
OS CASREACT 110:95554
IT **2622-89-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



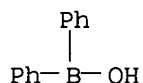
GI



AB Details of the synthesis and phys. properties of the title compd. I are reported along with a new prepn. of 3-benzoyl-(+)-camphor (II). Crystals of (3-benzoyl-(+)-camphorato)diphenylboron are triclinic. The unit-cell contains two crystallog. independent mols., related to one another in the crystal lattice by a pseudo-inversion center, and having the same

configuration but different conformations. The structure anal. shows that the chiral, anionic, 1,3-diketonate ligand derived from II is not sym. delocalized like most related ligands, resulting in significantly different O-B bond lengths. Bond lengths (cor. for libration) include: O-B = 1.514(4), 1.522(4); 1.568(4) and 1.567(4) .ANG.; C-B = 1.594(5)-1.616(5) .ANG..

L4 ANSWER 171 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1989:19755 CAPLUS
 DN 110:19755
 TI Fungicidal activity of diphenylboric acid derivatives
 AU Molodykh, Zh. V.; Teplyakova, L. V.; Nikonov, G. N.; Erastov, O. A.
 CS USSR
 SO Fiziologicheskii Aktivnye Veshchestva (1988), 20, 68-71
 CODEN: FAVUAI; ISSN: 0533-1153
 DT Journal
 LA Russian
 IT 2622-89-1D, glycol esters and glycol ester alkylamine complexes
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
 (fungicidal activity of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



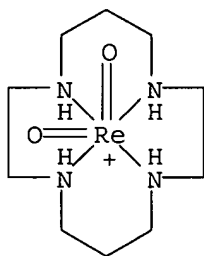
AB Of 4 glycol diphenylborates, HO(CH₂)₇OBPh₂ (I) was the most effective. I at 1.7 times. 10-4M completely suppressed the growth of *Aspergillus niger*, *Fusarium moniliforme*, *Rhizoctonia solani*, and *Helminthosporium sativum* mycelium. HO(CH₂)₃OBPh₂, HO(CH₂)₆OBPh₂, and the branched ester, HOCHMeCH₂CH₂CHMeOBPh₂ (II), were less effective. The most effective was the C₁₀H₂₁NH₂ salt of II (III). However, III was less effective than I. II depressed lipase, SS, and SH groups of *H. sativum* more effectively than did III which, however, inhibited dehydrogenase and protein formation more effectively.

L4 ANSWER 172 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1988:621368 CAPLUS
 DN 109:221368
 TI Rhenium complexes of tetraaza macrocycles: the synthesis and single-crystal x-ray structure of trans-dioxo(1,4,8,11-tetraazacyclotetradecane)rhenium(V) chloride-(triphenylboron monohydrate) (1/2)
 AU Blake, Alexander J.; Greig, John A.; Schroeder, Martin
 CS Dep. Chem., Univ. Edinburgh, Edinburgh, EH9 3JJ, UK
 SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1972-1999) (1988), (10), 2645-7
 CODEN: JCDTBI; ISSN: 0300-9246
 DT Journal
 LA English
 IT 117579-38-1P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and crystal structure of racemic)

RN 117579-38-1 CAPLUS
 CN Rhenium(1+), dioxo(1,4,8,11-tetraazacyclotetradecane-N1,N4,N8,N11)-, [OC-6-13-(1R*,4R*,8S*,11S*)]-, chloride, compd. with (T-4)-aquatriphenylboron (1:2) (9CI) (CA INDEX NAME)

CM 1

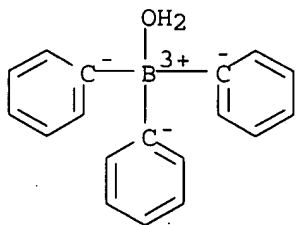
CRN 117579-37-0
 CMF C10 H24 N4 O2 Re . Cl
 CCI CCS



● Cl⁻

CM 2

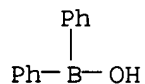
CRN 117579-36-9
 CMF C18 H17 B O
 CCI CCS



AB Reaction of [ReOCl₃(PPh₃)₂] with 1,4,8,11-tetraazacyclotetradecane (cyclam) in CH₂Cl₂ affords ReOCl₃(cyclam) which hydrolyzes readily to [Re(O)₂(cyclam)]⁺ in soln. trans-[Re(O)₂(cyclam)]Cl.2(BPh₃.H₂O) crystallizes in the monoclinic space group P2₁/n, a 9.3869(4), b 13.5504(7), c 17.7727(11) .ANG., .beta. 91.918(5).degree., Z = 2, implying that both the macrocyclic complex cation and the chloride counter-ion lie on inversion centers. The single-crystal x-ray structure of the complex shows octahedral ReV with the tetraaza macrocyclic ligand bound in the equatorial plane adopting an RRSS (trans-III) configuration at the coordinated N donors, Re-N(1) 2.128(3), Re-N(11) 2.135(3) .ANG.. The coordination shell is completed by mutually trans dioxo ligands, Re:O 1.756(3) .ANG.. The Cl⁻ counter-ion is not coordinated to the Re center.

Two mols. of the adduct $\text{BPh}_3 \cdot \text{H}_2\text{O}$ are also obsd. in the crystal. Extensive H bonding is obsd. in the crystal between the oxo ligands, H_2O mols., Cl counter-ions, and the amine protons of the macrocyclic ligand.

L4 ANSWER 173 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1988:569394 CAPLUS
 DN 109:169394
 TI Long-term phytoavailability of soil-applied organo-borates
 AU Adriano, D. C.; Kaplan, D. I.; Burkman, W. G.; Mills, G. L.
 CS Inst. Ecol., Univ. Georgia, Aiken, SC, 29801, USA
 SO Journal of Environmental Quality (1988), 17(3), 485-92
 CODEN: JEVQAA; ISSN: 0047-2425
 DT Journal
 LA English
 IT 2622-89-1
 RL: BIOL (Biological study)
 (plant and soil boron and sorgrass growth response to)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Sodium tetraphenylboron (NaTPB) is expected to be used in large quantities to sep. radiocesium from high-level nuclear wastes. Greenhouse expts. were conducted to det. the long-term effects of NaTPB , diphenylboric acid (DPBA , a major degrdn. byproduct of NaTPB), and boric acid (BA) on the extractability of soil B and plant B nutrition. Sorgrass (*Sorghum vulgare* sudanense Dub-L-Graze) was planted in sandy and loamy sandy soils (Grossarenic and Typic Paleudults) in 2 sep. 2-yr studies. Initial differences between effects of the B sources on biomass, plant B concn., plant B uptake, and hot-water extractable B disappeared after the 1st harvest, while differences among these parameters due to soil type and application rate remained throughout the expts. Extractable soil and plant B concns. tended to decrease more gradually in the loamy sand than in the sandy soil. Plant toxicity from org. sources was noted only during the 1st harvest while BA had no adverse effects. Both NaTPB and DPBA reduced biomass, the former more than the latter. Initially, plant B concns. were higher in NaTPB than BA treatments. The cumulative percentage of soil-applied B removed after 2 yr by sorgrass remained fairly similar, $20.0 \pm 1.7\%$ (1 SD) among B sources and application rates. This suggests that a large fraction of B applied to the soil was not taken up by the plant, presumably due to soil fixation. Biphenyl, another major breakdown product of NaTPB , had no effect on sorgrass growth, tissue B concn., or soil B concn.

L4 ANSWER 174 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1988:549589 CAPLUS
 DN 109:149589
 TI Structural studies of organoboron compounds. XXVII. (3-Hydroxy-2-methyl-4-pyridinonato)diphenylboron and (3-hydroxy-1,2-dimethyl-4-pyridinonato)diphenylboron
 AU Nelson, William O.; Orvig, Chris; Rettig, Steven J.; Trotter, James
 CS Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
 SO Canadian Journal of Chemistry (1988), 66(1), 132-8

CODEN: CJCHAG; ISSN: 0008-4042

DT Journal

LA English

OS CASREACT 109:149589

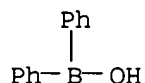
IT **2622-89-1P**, Diphenylborinic acid

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and reaction of, with hydroxypyridinone derivs.)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The prepn. (from Ph₂BOH and hydroxypyridinone derivs.) and crystal structures of the title compds. (I and II, resp.) are given. Both mols. contain five-membered C₂O₂B chelate rings, that in II being nearly planar. Structural data indicate weaker overall binding of the ligand O atoms to boron in I than in II.

L4 ANSWER 175 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1988:454817 CAPLUS

DN 109:54817

TI Boron compounds. (XIX). New organyloxydiarylborane chelates containing the virucide 2-(.alpha.-hydroxyalkyl)benzimidazole as ligands

AU Yuan, Guozheng; Li, Guiying; Zhang, Guomin

CS Dep. Chem., Wuhan Univ., Guomin, Peop. Rep. China

SO Gaodeng Xuexiao Huaxue Xuebao (1987), 8(5), 398-402

CODEN: KTHPDM; ISSN: 0251-0790

DT Journal

LA Chinese

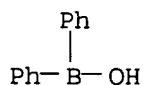
IT **2622-89-1P 66117-64-4P 89566-59-6P****115105-75-4P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and chelation of, with hydroxymethylbenzimidazole)

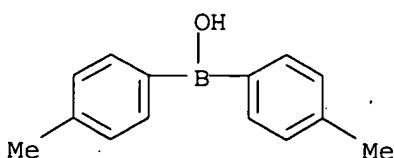
RN 2622-89-1 CAPLUS

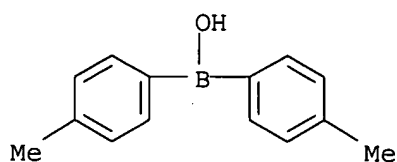
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 66117-64-4 CAPLUS

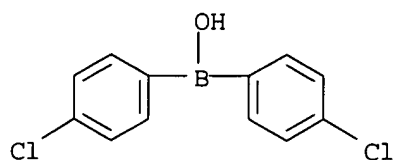
CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)





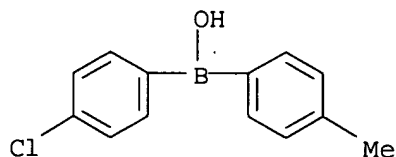
RN 89566-59-6 CAPLUS

CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)

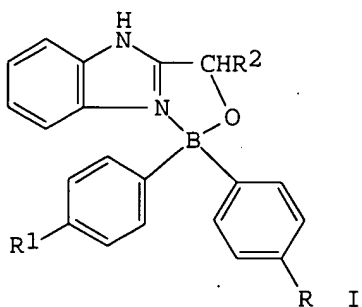


RN 115105-75-4 CAPLUS

CN Borinic acid, (4-chlorophenyl)(4-methylphenyl)- (9CI) (CA INDEX NAME)



GI



AB Title compds. I (R, R1 = H, Me, Cl; R2 = H, Ph) were prepd. through the reaction of 2-(.alpha.-hydroxymethyl)benzimidazole or 2-(.alpha.-hydroxybenzyl)-benzimidazole with diarylborinic acid. These compds. were identified by elemental anal., MS, IR and UV spectroscopies.

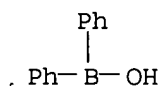
L4 ANSWER 176 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1988:435183 CAPLUS

DN 109:35183

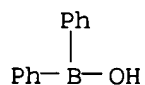
TI Glycolic esters of diphenylboric acid: antimicrobial activity

AU Molodykh, Zh. V.; Anisimova, N. N.; Nikonov, G. N.; Erastov, O. A.
CS Inst. Org. Fiz. Khim. im. Arbuzova, Kazan, USSR
SO Khimiko-Farmatsevticheskii Zhurnal (1988), 22(4), 438-41
CODEN: KHFZAN; ISSN: 0023-1134
DT Journal
LA Russian
IT 2622-89-1DP, glycolic esters
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and antimicrobial activity of, structure in relation to)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Glycolic diphenylboric esters with the general formula of HOROBPh₂ and complexes with HORB (.rarw.A)PH₂ amines were synthesized and studied for their toxicity against fungi, bacteria, white mice, and the lipolytic enzyme lipase. The introduction of an amine fragment into the mol. of glycolic di-Ph ester diminished toxicity in warm-blooded animals and suppressed the activity of lipase to a greater extent. The aliph. radical length at the nitrogen atom exerted significant effects on the growth of Trichophyton and bacteria. Substantially augmented antimicrobial properties were assocd. with the greater lipophilicity of the compds., and it was suggested that the compds. might act in the open tautomeric form.

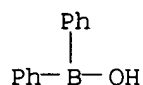
L4 ANSWER 177 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1988:427375 CAPLUS
DN 109:27375
TI Preconcentration and analysis of tetraphenylboron and diphenylborinic acid in natural waters using C18 reverse-phase liquid chromatography
AU Mills, Gary L.; Schwind, Donna; Adriano, Domy C.
CS Inst. Ecol., Univ. Georgia, Aiken, SC, 29801, USA
SO Chemosphere (1988), 17(5), 937-42
CODEN: CSMHAF; ISSN: 0045-6535
DT Journal
LA English
IT 2622-89-1, Diphenylborinic acid
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in natural water, by reversed-phase HPLC)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Tetraphenylboron (TPB) and diphenylborinic acid (DPBA) were concd. from aq. solns. using C18 reverse-phase liq. chromatog. Percent recoveries from solns. contg. 0.05-1.199 .mu.g/mL were 94.6% and 82.8% for TPB and DPBA, resp. The effect of soln. vol. was also investigated and the

results indicated that .ltoreq.50 mL of sample can be processed through a column without significant loss in recovery efficiency. Naturally occurring dissolved org. matter present in a black water coastal plain stream did not interfere in the retention or elution efficiencies for these organoborates.

L4 ANSWER 178 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1988:217490 CAPLUS
 DN 108:217490
 TI Response of loblolly pine (*Pinus taeda* L.) seedlings to soil-applied organo-borates
 AU Kaplan, D. I.; Burkman, W. G.; Adriano, D. C.
 CS Biogeochem. Div., Savannah River Ecol. Lab., Aiken, SC, 29801, USA
 SO Water, Air, and Soil Pollution (1988), 37(1-2), 73-83
 CODEN: WAPLAC; ISSN: 0049-6979
 DT Journal
 LA English
 IT 2622-89-1
 RL: BIOL (Biological study)
 (tetraphenylborate degrdn. product, loblolly pine seedlings response to soil-applied)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



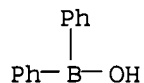
AB Two greenhouse pot expts. using loblolly pine (*P. taeda*) seedlings were conducted to evaluate the effects of Na tetraphenylboron (NaTPB) and one of its degrdn. byproducts, diphenylboric acid (DPBA), on pine B nutrition and growth. The needle and root tissue concns. of B were higher for NaTPB than DPBA treatments. Consequently, NaTPB but not DPBA had detrimental effects on plant growth. Seedlings that had significant yield detriments displayed typical B toxicity symptoms due to high-B stress. The distribution of B among the needles, stems and roots, expressed as percent of total B in the seedlings, remained relatively const. irresp. of the soil B level or B source. The peak of hot-water extractable soil B from the NaTPB treatments lagged about 20 days behind the DPBA treatments, suggesting a faster hydrolysis for the latter compd.

L4 ANSWER 179 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1988:112528 CAPLUS
 DN 108:112528
 TI Structural studies of organoboron compounds. XXV. Synthesis and structure of (maltolato)diphenylboron
 AU Orvig, Chris; Rettig, Steven J.; Trotter, James
 CS Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
 SO Canadian Journal of Chemistry (1987), 65(3), 590-4
 CODEN: CJCHAG; ISSN: 0008-4042
 DT Journal
 LA English
 OS CASREACT 108:112528
 IT 2622-89-1P, Diphenylborinic acid
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and reaction of, with maltol)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The reaction of maltol (3-hydroxy-2-methyl-4-pyrone) with diphenylborinic acid gave 90% of the title compd. Its crystal structure was detd. The mol. contains a 5-membered C2O2B ring having a flattened B-envelope conformation, the B atom being displaced 0.081(2) .ANG. from the C2O2 plane. Structural and spectroscopic data are consistent with weak binding of the maltolate O atoms to B.

L4 ANSWER 180 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1988:18588 CAPLUS

DN 108:18588

TI Effect of hydroxyorganoboranes on synthesis, transport and N-linked glycosylation of plasma proteins

AU Goldberger, Gabriel; Paz, Mercedes A.; Torrelío, B. Marina; Okamoto, Yoshiaki; Gallop, Paul M.

CS Harvard Sch. Med., Child. Hosp. Corp., Boston, MA, 02115, USA

SO Biochemical and Biophysical Research Communications (1987), 148(1), 493-9
CODEN: BBRC9; ISSN: 0006-291X

DT Journal

LA English

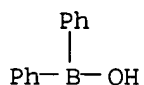
IT 2622-89-1

RL: ANST (Analytical study)

(inhibition by, of protein formation and transport and glycosylation in human cells)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB By using a recently developed method (Boradeption) for transferring water-insol. hydroxyorganoborane compds. into cells, inhibition of protein synthesis by 3 of these compds. and inhibition of secretion of plasma proteins by 4 of them were obsd. in human hepatoma HepG2 cells. These effects were specific in that the cell viability was not affected and an increase in protein catabolism was not obsd. Three compds. caused compd.-specific alterations in the electrophoretic mobility of secreted glycoproteins due to underlying changes in the N-linked carbohydrate moieties. Results presented suggest a potential new source of cellular probes.

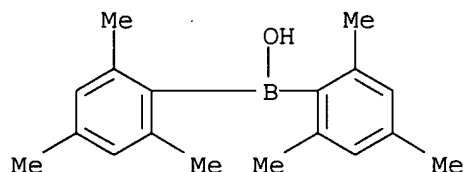
L4 ANSWER 181 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1987:469592 CAPLUS

DN 107:69592

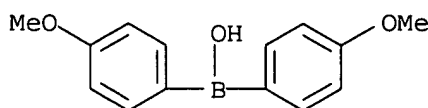
TI Synthesis and spectroscopic and structural characterization of derivatives of the quasi-alkoxide ligand [OBMes2]- (Mes = 2,4,6-Me3C6H2)

AU Weese, Kenneth J.; Bartlett, Ruth A.; Murray, Brendan D.; Olmstead, Marilyn M.; Power, Philip R.
CS Dep. Chem., Univ. California, Davis, CA, 95616, USA
SO Inorganic Chemistry (1987), 26(15), 2409-13
CODEN: INOCAJ; ISSN: 0020-1669
DT Journal
LA English
IT **20631-84-9**
RL: PRP (Properties)
(crystal structure of)
RN 20631-84-9 CAPLUS
CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB Treatment of Mes₂BOH; (Mes = 2,4,6-Me₃C₆H₂) with BuLi in hexane/ether affords a suspension of LiOBMes₂, which can be crystd. from THF soln. as the dimer [{Li(THF)OBMes₂}₂] (II). Treatment of a slurry of anhyd. CoCl₂ in THF with 2 equiv. of II gives [Co{OBMes₂}₂Li(THF)₂Cl₂Li(THF)₂] (III) in good yield. The x-ray crystal structures of I, II, and III are also reported. The structure of I is the 1st for a diorganoboronous acid, and it exists in the solid state as H-bonded tetramers. II is the 1st structurally characterized example of a metal salt of a boronous acid, and it possesses a dimeric structure previously seen only with very bulky -OC(tert-Bu)₃ and -OC₆H₂-2,6-tert-Bu₂-4-Me salts. III has Co pseudotetrahedrally bound to 2 OBMes₂ and Cl⁻ ligands, which also form bridges to 2 Li⁺ ions. Each Li⁺ is also pseudotetrahedrally coordinated, with 2 THF donors as the remaining ligands in each case.

L4 ANSWER 182 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1986:207334 CAPLUS
DN 104:207334
TI Studies on antitumor boron containing compounds. IV. Synthesis and antitumor activities of bis(p-methoxyphenyl)borinic .alpha.-amino acid anhydrides
AU Lin, Kai; Zhang, Guomin; Fu, Naiwu
CS Dep. Chem., Wuhan Univ., Wuhan, Peop. Rep. China
SO Youji Huaxue (1985), (3), 228-32
CODEN: YCHHDX; ISSN: 0253-2786
DT Journal
LA Chinese
OS CASREACT 104:207334
IT **73774-45-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reactions with hydroxyethylamine and amino acids)
RN 73774-45-5 CAPLUS
CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



AB The title compds. (p-MeOC₆H₄)₂BO₂CCHRNH₂ I [R = H, Me, CHMe₂, CH₂CHMe₂, CH₂Ph, (CH₂)₂SMe, 3-indolylmethyl, 3-bis(p-methoxyphenyl)boryl-4-imidazolylmethyl] were prepd. by the reactions of (p-MeOC₆H₄)₂BOH, obtained from Grignard reaction of p-MeOC₆H₄Br with B(OBu)₃, with DL-, D-, or L-H₂NCHRCO₂H in PhMe. Preliminary tests showed D-I (R = CH₂CHMe₂) had 36.4% inhibitory activity on Ehrlich ascites carcinoma cells in mice at 0.4 g/kg and D-I (R = CH₂CH₂SMe) had 49.5% inhibitory activity at 0.6 g/kg.

L4 ANSWER 183 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:472876 CAPLUS

DN 103:72876

TI Fluorochlorohydrocarbon compositions

IN Enjo, Naonori; Harada, Yuhkow

PA Daikin Kogyo Co., Ltd., Japan

SO Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

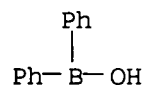
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 136683	A2	19850410	EP 1984-111678	19840929
	EP 136683	A3	19860326		
	EP 136683	B1	19911204		
	R: DE, FR, GB				
	JP 60072979	A2	19850425	JP 1983-183870	19830930
	JP 03069956	B4	19911105	JP 1983-183870	19830930
	US 4623475	A	19861118	US 1984-655527	19840928
				JP 1983-183870	19830930

IT 2622-89-1

RL: MOA (Modifier or additive use); USES (Uses)
(heat stabilizers, for chlorofluorocarbons)

RN 2622-89-1 CAPLUS

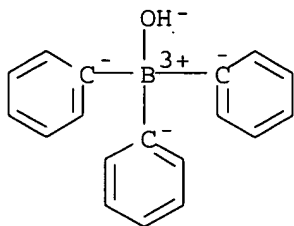
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



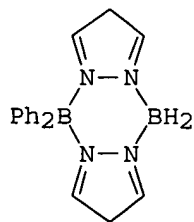
AB The title compns. contain a B compd. or a B compd. and an ester of phosphorous acid in order to inhibit decompn. of the halocarbon compd. at high temps. The stabilized compns. are useful as heating fluids and as foaming agents for plastics. Thus, 2 g Cl₃CF [75-69-4] contg. 0.25% triphenyl borate (I) [1095-03-0] was placed in a glass tube along with 0.02 g lubricating oil (turbine oil) and a piece of steel. After the tube was sealed and heated 100 h at 150.degree., the liq. contained 15 ppm Cl, compared with 1500 ppm without I. The appearance of the liq. and the steel did not change during heating, while heating in the absence of I

caused discoloration of the liq. and steel.

L4 ANSWER 184 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1985:422778 CAPLUS
 DN 103:22778
 TI Syntheses and reactions of pyrazaboles
 AU Layton, W. J.; Niedenzu, Kurt; Niedenzu, P. M.; Trofimenko, S.
 CS Dep. Chem., Univ. Kentucky, Lexington, KY, 40506, USA
 SO Inorganic Chemistry (1985), 24(10), 1454-7
 CODEN: INOCAJ; ISSN: 0020-1669
 DT Journal
 LA English
 OS CASREACT 103:22778
 IT **12113-07-4**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with ammonia)
 RN 12113-07-4 CAPLUS
 CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



GI



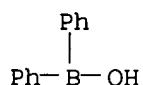
I

AB The unsym. pyrazabole $\text{Ph}_2\text{B}(\mu\text{-pz})_2\text{BH}_2$ (I, $\text{pz} = \text{N}_2\text{C}_3\text{H}_3 = \text{pyrazolyl}$) was prepd. by the reaction of $\text{K}[\text{Ph}_2\text{B}(\text{pz})_2]$ with $\text{Me}_3\text{NBH}_2\text{I}$; subsequent halogenation with Br_2 yielded $\text{Ph}_2\text{B}(\mu\text{-pz})_2\text{BBr}_2$. Similarly, $\text{Et}_2\text{B}(\mu\text{-pz}')_2\text{BH}_2$ ($\text{Hpz}' = 3,5\text{-dimethylpyrazole}$) was converted to $\text{Et}_2\text{B}(\mu\text{-pz}')_2\text{BBr}_2$. Reaction of $\text{H}_2\text{B}(\mu\text{-pz}')_2\text{BH}_2$ with (even an excess of) BBr_3 gave a mixt. of cis and trans isomers of $\text{HBrB}(\mu\text{-pz}')_2\text{BHBr}$, whereas reaction with Br_2 afforded $\text{Br}_2\text{B}(\mu\text{-pz}')_2\text{BBr}_2$. Reaction of the latter compd. with $\text{K}[\text{pz}]$ yielded $(\text{pz})_2\text{B}(\mu\text{-pz}')_2\text{B}(\text{pz})_2$, the first characterized pyrazolylpyrazabole contg. different pyrazolyl moieties

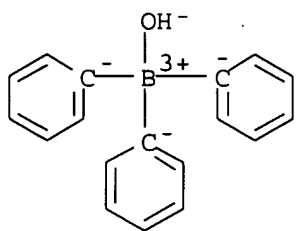
bonded to the same B atom. A second, polymeric modification of $\text{Hpz}'\text{B}(\mu\text{-pz}')_2\text{BHpz}'$ was identified; it appears to be the one reacting with addnl. Hpz' to form $(\text{pz}')_2\text{B}(\mu\text{-pz}')_2\text{B}(\text{pz}')_2$. The latter forms a monohydrate in a reversible reaction, but no similar interaction occurs with NH_3 .

L4 ANSWER 185 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1985:204099 CAPLUS
 DN 102:204099
 TI Recovery of arylboranes
 IN Ostermaier, John Joseph
 PA du Pont de Nemours, E. I., and Co. , USA
 SO Eur. Pat. Appl., 10 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 131307	A2	19850116	EP 1984-108102	19840711
	EP 131307	A3	19851227		
	EP 131307	B1	19890503		
	R: BE, DE, FR, GB, IT, LU, NL				
	US 4521628	A	19850604	US 1983-512686	19830711
	CA 1201728	A1	19860311	US 1983-512686	19830711
				CA 1984-458489	19840710
				US 1983-512686	19830711
	JP 60038388	A2	19850227	JP 1984-142484	19840711
	JP 05003473	B4	19930114		
				US 1983-512686	19830711
IT	2622-89-1				
	RL: RCT (Reactant); RACT (Reactant or reagent)				
	(neutralization of tetraphenylborane adduct in presence of)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



IT **12113-07-4**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (neutralization of, with hydrochloric acid, triphenylborane from)
 RN 12113-07-4 CAPLUS
 CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



● Na⁺

AB Arylboranes were recovered from their basic adducts in aq. soln. by neutralization in at least 2 stages. Thus, a mixt. of 0.10 phenylborinic acid, 0.25 diphenylborinic acid, 8.5 Ph₃B, 0.5 tetraphenylborate, 4.2 NaOH, 80.0 H₂O, and 6.2 wt. % NaCl was neutralized in 2 stages using aq. 7% HCl at 40.degree..

L4 ANSWER 186 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:163282 CAPLUS

DN 102:163282

TI Mass spectral and HPLC analysis of biological compounds with diphenylborinic acid

AU Flueckiger, Rudolf; Henson, Edward; Hess, Guido M.; Gallop, Paul M.

CS Child. Hosp., Harvard Sch. Med., Boston, MA, 02115, USA

SO Biomedical Mass Spectrometry (1984), 11(12), 611-15

CODEN: BMSYAL; ISSN: 0306-042X

DT Journal

LA English

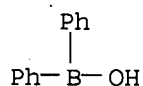
IT 2622-89-1

RL: ANST (Analytical study)

(derivatization by, of biomols. for HPLC and mass spectrometry)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Diphenylborinic acid is shown to react with a variety of polyfunctional mols. of biol. interest (e.g., amino acids) to give products which are easily identifiable by mass spectrometry. The diphenylborinate adducts of amino acids possess extraordinary stability and are separable by reversed-phase HPLC. The stability of products is discussed with regard to the nature and stereochem. arrangement of the functional groups involved in complex formation.

L4 ANSWER 187 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1985:62296 CAPLUS

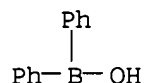
DN 102:62296

TI Synthesis of diaryl- and arylboric acids

AU Sazonova, E. V.; Galiullina, R. F.

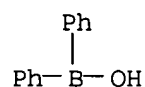
CS USSR

SO Khimiya Elementoorganicheskikh Soedinenii (1983) 24-5
CODEN: KELSD; ISSN: 0201-6699
DT Journal
LA Russian
OS CASREACT 102:62296
IT **2622-89-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Treating NaBPh₄ with HCl in dioxane gave 90% Ph₂BOH. KB(C₆H₄Me-p)₄ and HCl gave 35% p-MeC₆H₄B(OH)₂.

L4 ANSWER 188 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1985:42122 CAPLUS
DN 102:42122
TI Serum cholinesterase inhibition by boronic acids
AU Garner, Charles W.; Little, Gwynne H.; Pelley, John W.
CS Health Sci. Cent., Texas Tech Univ., Lubbock, TX, 79430, USA
SO Biochimica et Biophysica Acta (1984), 790(1), 91-3
CODEN: BBACAQ; ISSN: 0006-3002
DT Journal
LA English
IT **2622-89-1**
RL: BIOL (Biological study)
(cholinesterase inhibition by, kinetics of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Horse serum cholinesterase (EC 3.1.1.8) was reversibly inhibited by a variety of alkyl- and areneboronic acids with K_i values ranging from 6.2 mM (methaneboronic acid) to 3.1 μM (diphenylboric acid). Binding to the enzyme was apparently at the active center, because inhibition obeyed competitive kinetics and because boronic acids protected the enzyme from inactivation by phenylmethanesulfonyl fluoride. Boronic acids should prove useful in probing the active center of serum cholinesterase.

L4 ANSWER 189 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1984:447599 CAPLUS
DN 101:47599
TI Coordination chemistry of copper macrocyclic complexes: synthesis and characterization of copper complexes of TIM
AU Maroney, Michael J.; Rose, Norman J.
CS Dep. Chem., Univ. Washington, Seattle, WA, 98195, USA
SO Inorganic Chemistry (1984), 23(15), 2252-61

CODEN: INOCAJ; ISSN: 0020-1669

DT Journal

LA English

IT 90342-86-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 90342-86-2 CAPLUS

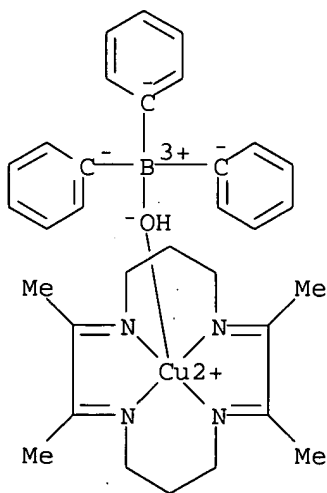
CN Copper(1+), [hydroxytriphenylborato(1-)](2,3,9,10-tetramethyl-1,4,8,11-tetraazacyclotetradeca-1,3,8,10-tetraene-.kappa.N1,.kappa.N4,.kappa.N8,.kappa.N11)-, (SP-5-12)-, tetraphenylborate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 90342-85-1

CMF C32 H40 B Cu N4 O

CCI CCS

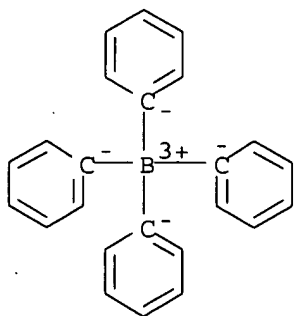


CM 2

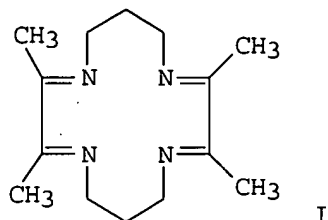
CRN 4358-26-3

CMF C24 H20 B

CCI CCS



GI



AB Four-coordinate planar $[\text{Cu}(\text{TIM})](\text{BPh}_4)_2$ ($\text{TIM} = \text{I}$) and 5-coordinate pyramidal $[\text{Cu}(\text{TIM})\text{L}](\text{PF}_6)_2$ ($\text{L} = 1\text{-methylimidazole, imidazole, py, NH}_3$) and $[\text{Cu}(\text{TIM})\text{X}]\text{PF}_6$ ($\text{X} = \text{Cl, Br, I, NCS}$) were prepd. The complexes were characterized in the solid state and in the soln. by elemental anal., IR, electronic, and EPR spectroscopy, and magnetic, cond., and mol. wt. measurements. The position of PF_6^- in the solid-state structures of $[\text{Cu}(\text{TIM})\text{X}]\text{PF}_6$ ($\text{X} = \text{Cl, Br}$) is such that the displacement of Cu from the basal ligand plane in these pyramidal structures is smaller than might be expected. In Me_2CO soln., $[\text{Cu}(\text{TIM})](\text{BPh}_4)_2$ undergoes a redn. to the intensely blue $\text{Cu}(\text{TIM})^+$ ($\epsilon_{\text{max}} = 1.34 \text{ } \mu\text{m}^{-1}$). In the presence of excess NCS^- , $\text{Cu}(\text{TIM})\text{NCS}^+$ in Me_2CO soln. exists in equil. with the 6-coordinate $\text{Cu}(\text{TIM})(\text{NCS})_2$.

L4 ANSWER 190 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1984:209930 CAPLUS

DN 100:209930

TI The reactions of diborane with aryl organotin compounds

AU Pickles, G. M.; Spencer, T.; Thorpe, F. G.; Chopra, A. B.; Podesta, J. C.

CS Chem. Dep., Univ. Lancaster, LA1 4YA, UK

SO Journal of Organometallic Chemistry (1984), 260(1), 7-15

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

LA English

OS CASREACT 100:209930

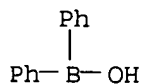
IT 2622-89-1P 66117-64-4P 89566-59-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, by hydrolysis of aryltin-borane reaction product)

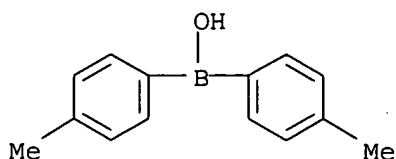
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



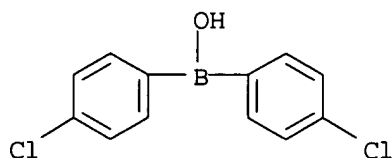
RN 66117-64-4 CAPLUS

CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 89566-59-6 CAPLUS

CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)



AB Treating R_4Sn ($R = Ph, 2\text{- and } 4\text{-tolyl}, 4\text{-ClC}_6\text{H}_4$) and Ph_3SnX ($X = Cl, H, OH, OAc, O_2CCF_3$) with BH_3 gave transmetalation, in which .gtoreq.1 aryl group was transferred to B. The organoboron intermediates give phenols upon oxidn. and boronic and borinic acids upon hydrolysis. Pyridine (L) complexes of organoboranes, Ph_2BHL and Ph_3BL were also isolated.

L4 ANSWER 191 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1984:192221 CAPLUS

DN 100:192221

TI Synthesis of bis(p-methoxyphenyl)borinic .alpha.-amino acid anhydrides

AU Lin, Kai; Zhang, Guomin

CS Wuhan Univ., Wuhan, Peop. Rep. China

SO Ziran Zazhi (1983), 6(9), 715-17

CODEN: TJTCD4; ISSN: 0253-9608

DT Journal

LA Chinese

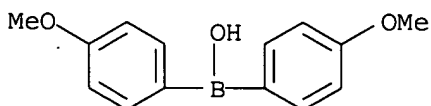
IT **73774-45-5P**

RL: SPN (Synthetic preparation); PREP (Preparation)

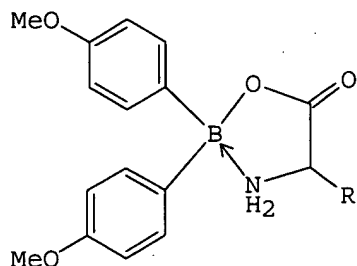
(prepn. and condensation with amino acids and aminoethanol)

RN 73774-45-5 CAPLUS

CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

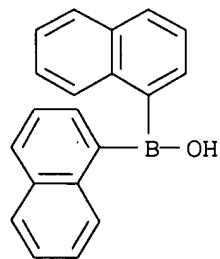


GI



AB Title borinic amino acid anhydrides I (R = amino acid residue) were prepd. by reaction of (p-MeOC₆H₄)₂BOH with H₂NCHRCO₂H (NHCHRCO = Val, Phe, Tyr, Leu, Met, Ala, etc.).

L4 ANSWER 192 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1984:6728 CAPLUS
 DN 100:6728
 TI Organozinc derivatives of dialkyl(aryl)borinic acids
 AU Galiumena, R. F.; Sazonova, E. V.; Dodonov, V. A.
 CS USSR
 SO Khimiya Elementoorgan. Soedin., Gor'kii (1982) 33-6
 From: Ref. Zh., Khim. 1983, Abstr. No. 14Zh278
 DT Journal
 LA Russian
 IT **62981-91-3**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with dialkylzinc)
 RN 62981-91-3 CAPLUS
 CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



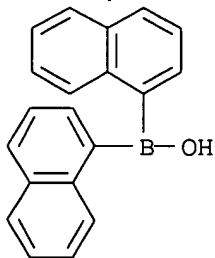
AB Title only translated.

L4 ANSWER 193 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1983:595137 CAPLUS
 DN 99:195137
 TI Organozinc derivatives of dialkyl(aryl)boric acids
 AU Galiullina, R. F.; Sazonova, E. V.; Dodonov, V. A.
 CS Gor'k. Gos. Univ., Gorkiy, USSR
 SO Khimiya Elementoorganicheskikh Soedinenii (1982) 33-6
 CODEN: KELSDE; ISSN: 0201-6699
 DT Journal
 LA Russian
 OS CASREACT 99:195137
 IT **62981-91-3**

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with zinc compds.)

RN 62981-91-3 CAPLUS

CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



AB RZnOBR12 (I, R = Et, isopentyl, R1 = Bu; R = Et, R1 = .alpha.-naphthyl) were prepd. by treating R2Zn with R12BuOH. Some reactions of I were discussed. I (R = Et, R1 = Bu) is an effective catalyst for the copolymn. of ethylene oxide with maleic anhydride.

L4 ANSWER 194 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1983:585388 CAPLUS

DN 99:185388

TI Structural studies of organoboron compounds. XV. Crystal and molecular structures of (3-aminopropanolato)diphenylboron, (2-N,N-dimethylaminoethanolato)diphenylboron, and (2-N,N-dimethylaminoethanolato)diphenylboron-diphenylborinic acid (1:1)

AU Rettig, Steven J.; Trotter, James

CS Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.

SO Canadian Journal of Chemistry (1983), 61(10), 2334-40

CODEN: CJCHAG; ISSN: 0008-4042

DT Journal

LA English

IT **87654-46-4 87699-91-0**

RL: PRP (Properties)
(structure of)

RN 87654-46-4 CAPLUS

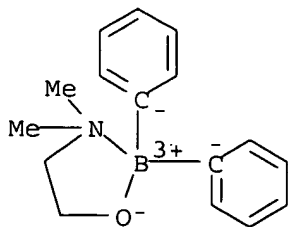
CN Boron, [2-(dimethylamino)ethanolato-N,O]diphenyl-, (T-4)-, compd. with diphenylborinic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

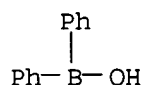
CRN 87654-45-3

CMF C16 H20 B N O

CCI CCS

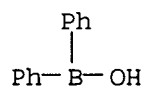


CM 2

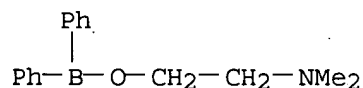
CRN 2622-89-1
CMF C12 H11 B O

RN 87699-91-0 CAPLUS
CN Borinic acid, diphenyl-, compd. with 2-(dimethylamino)ethyl
diphenylborinate (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 2622-89-1
CMF C12 H11 B O

CM 2

CRN 1028-93-9
CMF C16 H20 B N O

AB (3-Aminopropanolato)diphenylboron is monoclinic, space group P21/n, with a 9.6717(13), b 9.8867(6), c 14.452(2) .ANG., and .beta. 99.500(7).degree.; Z = 4. (2-N,N-Dimethylaminoethanolato)diphenylboron is monoclinic, space group Cc, with a 7.0721(4), b 16.8829(4), c 12.0975(8) .ANG., and .beta. 97.875(3).degree.; Z = 4. (2-N,N-Dimethylaminoethanolato)diphenylboron - diphenylborinic acid (1:1) is monoclinic, space group P21/n, with a 11.3231(10), b 19.3190(12), c 12.2451(11), .ANG., and .beta. 109.321(4); Z = 4. All 3 structures were solved by direct methods and refined by full-matrix least-squares to final R1 of 0.038, 0.031, and 0.040, resp. Each structure contains a tetrahedrally coordinated B. The libration-cor. B-O, B-N, and mean B-C distances are: 1.481(2), 1.643(3), and 1.623(3) .ANG. for (aminopropanolato)diphenylboron; 1.476(2), 1.691 (2), and 1.625(7) .ANG. for (dimethylaminoethanolato)diphenylboron. The Ph2BOH mol. contains a trigonal-planar B atom with B-O 1.354(3) .ANG. and mean B-C 1.572(3) .ANG..

L4 ANSWER 195 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1983:505428 CAPLUS
DN 99:105428

TI Organometallic nitrosyl chemistry. 19. Protonation vs. oxidative cleavage of the isoelectronic complexes $[(\eta^5\text{-C}_5\text{H}_4\text{R})\text{M}(\text{LO})_2]_2$ ($\text{M} = \text{Cr}$, Mn , or Fe ; $\text{L} = \text{C}$ or N ; $\text{R} = \text{H}$ or Me) by HBF_4

AU Legzdins, Peter; Martin, David T.; Nurse, Charles R.; Wassink, Berend

CS Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.

SO Organometallics (1983), 2(9), 1238-44
CODEN: ORGND7; ISSN: 0276-7333

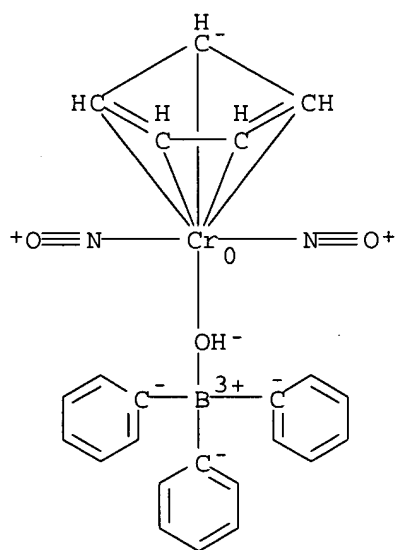
DT Journal

LA English

IT **86365-56-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 86365-56-2 CAPLUS

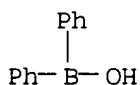
CN Chromium, $(\eta^5\text{-2,4-cyclopentadien-1-yl})[\text{hydroxytriphenylborato}(1-)]\text{dinitrosyl-}$ (9CI) (CA INDEX NAME)



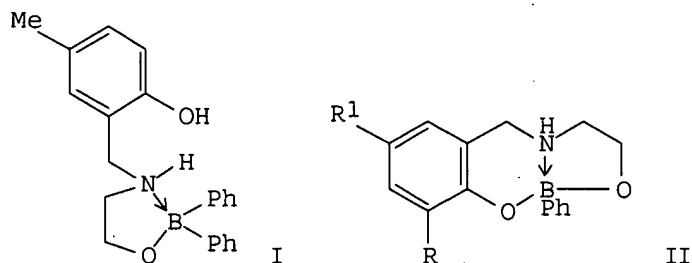
AB Treatment of $[(\eta^5\text{-C}_5\text{H}_5)\text{Fe}(\text{CO})_2]_2$ with an equimolar amt. of $\text{HBF}_4 \cdot \text{OME}_2$ in CH_2Cl_2 results in the clean formation of $[(\eta^5\text{-C}_5\text{H}_5)_2\text{Fe}_2(\text{CO})_4\text{H}]\text{BF}_4$ which may be isolated in good yield. In contrast, 2 equiv of the acid are required to consume completely $[(\eta^5\text{-C}_5\text{H}_5)\text{Cr}(\text{NO})_2]_2$, the principal organometallic product being $(\eta^5\text{-C}_5\text{H}_5)\text{Cr}(\text{NO})_2\text{BF}_4$. This latter complex is not isolable, but it can be identified spectroscopically and by its deriv. chem. Some of the workup procedures employed also afford new organometallic nitrosyl complexes of Cr such as $[(\eta^5\text{-C}_5\text{H}_5)\text{Cr}(\text{NO})_2]_2\text{OH}\text{BF}_4$ and $(\eta^5\text{-C}_5\text{H}_5)\text{Cr}(\text{NO})_2(\text{OHBPPh}_3)$. Two equiv. of $\text{HBF}_4 \cdot \text{OME}_2$ also consume $[(\eta^5\text{-C}_5\text{H}_4\text{R})\text{Mn}(\text{CO})(\text{NO})]_2$ ($\text{R} = \text{H}$, Me), but a complex mixt. of products results. Two well-known (i.e. $[(\eta^5\text{-C}_5\text{H}_4\text{R})\text{Mn}(\text{CO})_2(\text{NO})]^+$ and $(\eta^5\text{-C}_5\text{H}_4\text{R})_2\text{Mn}_2(\text{NO})_3(\text{NO}_2)$) and 2 novel (i.e., $[(\eta^5\text{-C}_5\text{H}_4\text{R})_3\text{Mn}_3(\text{NO})_3\text{NH}]^+$ and $[(\eta^5\text{-C}_5\text{H}_4\text{R})_2\text{Mn}_2(\text{NO})_2(\text{CO})(\text{NH}_2)]^+$) types of Mn nitrosyl complexes are produced in each case, the novel cations being ultimately isolable in low yields as the BF_4^- and BPh_4^- salts, resp. Cyclic voltammograms of $[(\eta^5\text{-C}_5\text{H}_5)\text{Fe}(\text{CO})_2]_2$ and $[(\eta^5\text{-C}_5\text{H}_5)\text{Cr}(\text{NO})_2]_2$ recorded under identical exptl. conditions reveal that the Cr dimer undergoes oxidn. at a slightly more pos. potential. The propensities of the $[(\eta^5\text{-C}_5\text{H}_4\text{R})\text{M}(\text{LO})_2]_2$ ($\text{M} = \text{Cr}$, Mn , Fe ; $\text{L} = \text{C}$, N ; $\text{R} =$

H, Me) dimers to undergo protonation or oxidative cleavage when treated with H^+ are thus rationalized in terms of the stabilities of the initially formed $[(\eta^5-C_5H_4R)M(LO)_2]2H^+$ adducts. Interestingly, treatment of $[(\eta^5-C_5H_5)Co(NO)]_2$ with $HBF_4 \cdot OMe_2$ in CH_2Cl_2 results in simple oxidn., the known $[(\eta^5-C_5H_5)Co(NO)]_2BF_4$ complex being obtainable in good yield.

L4 ANSWER 196 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1983:488250 CAPLUS
 DN 99:88250
 TI Dioxazaboronines
 AU Moehrle, Hans; Zuege, Erika; Bluhme-Hensen, Karin
 CS Inst. Pharm. Chem., Univ. Duesseldorf, Duesseldorf, D-4000/1, Fed. Rep. Ger.
 SO Archiv der Pharmazie (Weinheim, Germany) (1983), 316(4), 289-97
 CODEN: ARPMAS; ISSN: 0365-6233
 DT Journal
 LA German
 IT 2622-89-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with naphthoxazinyl naphthols)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



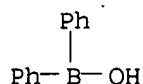
GI



AB Treating $H_2NCH_2CH_2OBPh_2$ with phenols and H_2CO led, depending on the phenol, either to B chelates of Mannich bases, e.g., I, or with extrusion of benzene to II ($R = Me$, $R_1 = CMe_3$, $CMeEt_2$; $R = CMe_3$, $R_1 = Me$).

L4 ANSWER 197 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1983:143499 CAPLUS
 DN 98:143499
 TI Structural studies of organoboron compounds. XIII. Preparation and crystal and molecular structure of bis[(salicyldoximate(2-))phenylboron]
 AU Rettig, Steven J.; Trotter, James
 CS Dep. Chem., Univ. British Columbia, Vancouver, BC, V6T 1Y6, Can.
 SO Canadian Journal of Chemistry (1983), 61(1), 206-10
 CODEN: CJCHAG; ISSN: 0008-4042

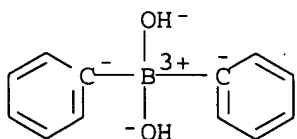
DT Journal
 LA English
 IT **2622-89-1**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with salicylaldoxime)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The reaction of Ph₂BOH with salicylaldoxime yielded [(C₇H₅NO₂)BPh]₂ (I) via a B-C bond cleavage reaction. The crystal structure of I indicated that the system has five fused 6-membered rings including the first crystallog. characterized B₂N₂O₂ ring. I is stabilized both by intramol. N .fwdarw. B coordination and by resonance delocalization and contains B atoms in a distorted tetrahedral environment.

L4 ANSWER 198 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1983:47062 CAPLUS
 DN 98:47062
 TI Liquid-liquid extraction systems for the isolation of catecholamines from serum and urine for HPLC analysis
 AU Smedes, Foppe; Kraak, Johan C.; Poppe, Hans
 CS Lab. Anal. Chem., Univ. Amsterdam, Amsterdam, 1018 WV, Neth.
 SO Proc. - Int. Congr. Clin. Chem., 11th (1982), Meeting Date 1981, 977-81. Editor(s): Kaiser, Erich; Gabl, Franz; Mueller, Mathias M. Publisher: de Gruyter, Berlin, Fed. Rep. Ger.
 CODEN: 48YDAZ

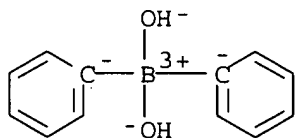
DT Conference
 LA English
 IT **83075-94-9**
 RL: BIOL (Biological study)
 (in catecholamine extn. from human biol. liqs., for chromatog.)
 RN 83075-94-9 CAPLUS
 CN Borate(1-), dihydroxydiphenyl-, (T-4)- (9CI) (CA INDEX NAME)



AB Liq.-liq. extn. of the catecholamines is based on the formation of a complex between H₃BO₃ or organoboric acids and diol groups of adrenaline [51-43-4], noradrenaline [51-41-2], and dopamine [51-61-6]. Hydrophobic substituents of diphenylborate [83075-94-9] used in the extn. favors the extn. of the borate-diol complex into org. solvents. To det. optimal extg. conditions, the effects of distribution coeff., pH, type of pairing ion, diphenylborate concn., etc., on the extn. procedures were examd. The extn. procedure involves shaking (10 min) of 1 mL plasma, 2 mL 1M NH₄OH/NH₄Cl buffer (pH 8.9) contg. 0.1% com. diphenylborate-ethanolamine [15614-89-8] plus 2 mL H₂O (contg. the internal std.) with 5

mL hexane plus 1% n-octanol contg. 0.3% (C₈H₁₇)₄N⁺Br⁻. The back extn. involved addn. of 1-2 mL n-octanol, 0.4-1 mL AcOH; the mixt. is then shaken and the aq. phase analyzed. The recovery of catecholamines from spiked urine and plasma samples was 94-100%.

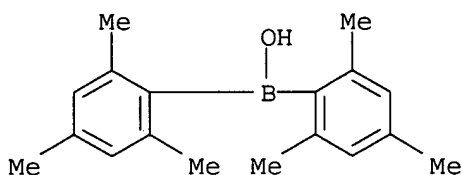
L4 ANSWER 199 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1982:538760 CAPLUS
DN 97:138760
TI Simple and fast solvent extraction system for selective and quantitative isolation of adrenaline, noradrenaline and dopamine from plasma and urine
AU Smedes, F.; Kraak, J. C.; Poppe, H.
CS Lab. Anal. Chem., Univ. Amsterdam, Amsterdam, 1018 WV, Neth.
SO Journal of Chromatography (1982), 231(1), 25-39
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
IT **83075-94-9**
RL: BIOL (Biological study)
(in catecholamine extn. from blood plasma and urine)
RN 83075-94-9 CAPLUS
CN Borate(1-), dihydroxydiphenyl-, (T-4)- (9CI) (CA INDEX NAME)



AB A solvent extn. system for the selective and quant. isolation of adrenaline [51-43-4], noradrenaline [51-41-2] and dopamine [51-61-6] from plasma and urine is described. The extn. system makes use of the complex formation, in alk. medium, between diphenylborate [**83075-94-9**] and the diol group in the catecholamines in combination with ion-pair formation. The influence of various parameters on the distribution coeff. was investigated by anal. of the liq. phases by high-performance liq. chromatog. with electrochem. detection for selecting the optimal extn. conditions. With hexane + 1% octanol contg. 0.25% of tetraoctylammonium bromide as the extn. solvent, the catecholamines can be quant. isolated from plasma and urine at pH 8.6 in the presence of 0.1% of diphenylborate. For urine the recovery was 101.5 for adrenaline, 100.6% for noradrenaline and 99.9% for dopamine. For plasma the recoveries were, resp., 101.8%, 100.5% and 92.9%. The recovery of dihydroxybenzylamine, included in the study as internal std., was 96.3% for urine and 89.9% for plasma. The applicability of the developed extn. system as clean-up and concn. step for the anal. of catecholamines in plasma and urine by high-performance liq. chromatog. with electrochem. detection is demonstrated.

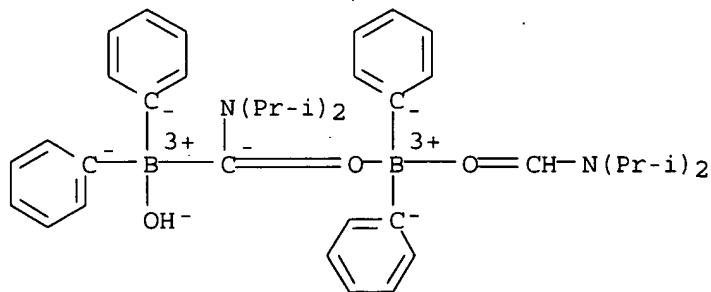
L4 ANSWER 200 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1982:527689 CAPLUS
DN 97:127689
TI Dimesitylboryl compounds. Part 8. Bis(dimesitylboryl)methane
AU Garad, Manchak V.; Wilson, John W.
CS Sch. Phys. Sci, New Univ. Ulster, Coleraine, BT52 1SA, UK
SO Journal of Chemical Research, Synopses (1982), (5), 132-3
CODEN: JRPSDC; ISSN: 0308-2342

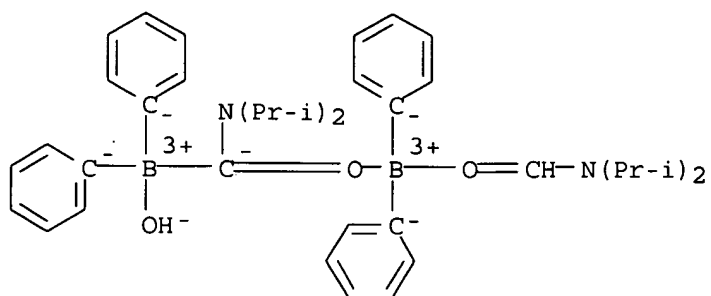
DT Journal
 LA English
 OS CASREACT 97:127689
 IT **20631-84-9P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, by substitution reaction of bis(dimesitylboryl)methane)
 RN 20631-84-9 CAPLUS
 CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB The title compd. [(2,4,6-Me₃C₆H₂)₂B]CH₂ (I) was prepd. in 65% yield by reaction of (2,4,6-Me₃C₆H₂)₂BCH₂Li with (2,4,6-Me₃C₆H₂)₂BF. Reactions of I with H₂O, alcs., thiols and amines are reported. E.g., reaction of I with MeOH gave (2,4,6-Me₃C₆H₂)₂BMe and (2,4,6-Me₃C₆H₂)₂BOMe quant. Deprotonation of I with KH in THF gave the anion [(2,4,6-Me₃C₆H₂)₂B]CH⁻, ¹³C NMR spectroscopy of which showed the neg. charge to be delocalized over the B-C-B bonds.

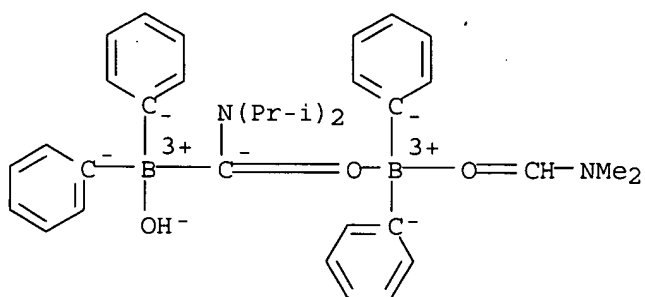
L4 ANSWER 201 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1982:217904 CAPLUS
 DN 96:217904
 TI Novel heterocyclic systems. Part 8. Novel complexes of amides and other species with a heterocyclic boron betaine
 AU Fletcher, Andrew S.; Paget, Walter E.; Smith, Keith
 CS Dep. Chem., Univ. Coll. Swansea, Swansea, SA2 8PP, UK
 SO Heterocycles (1982), 18(Spec. Issue), 107-11
 CODEN: HTCYAM; ISSN: 0385-5414
 DT Journal
 LA English
 IT **81805-26-7P 81805-27-8P 81805-28-9P**
81805-29-0P 81805-30-3P 81805-31-4P
81805-32-5P 81805-33-6P 81805-34-7P
81805-35-8P 81805-36-9P 81805-37-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and structure of)
 RN 81805-26-7 CAPLUS
 CN Boron, [μ -[[bis(1-methylethyl)amino]carbonyl-C:O]] [N,N-bis(1-methylethyl)formamide-O]hydroxytetraphenyldi- (9CI) (CA INDEX NAME)





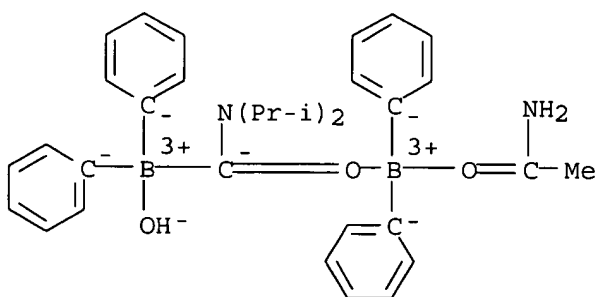
RN 81805-27-8 CAPLUS

CN Boron, [.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]](N,N-dimethylformamide-O)hydroxytetraphenyldi- (9CI) (CA INDEX NAME)



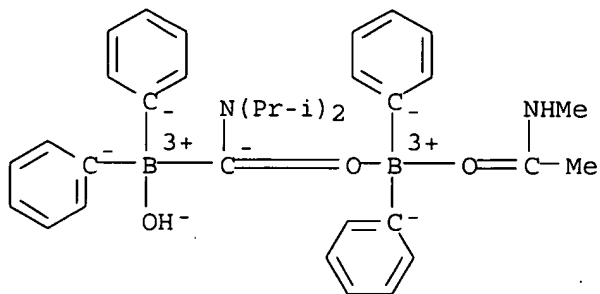
RN 81805-28-9 CAPLUS

CN Boron, (acetamide-O)[.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]]hydroxytetraphenyldi- (9CI) (CA INDEX NAME)



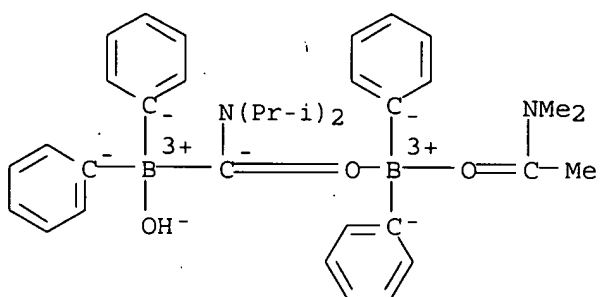
RN 81805-29-0 CAPLUS

CN Boron, [.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]]hydroxy(N-methylacetamide-O)tetraphenyldi- (9CI) (CA INDEX NAME)



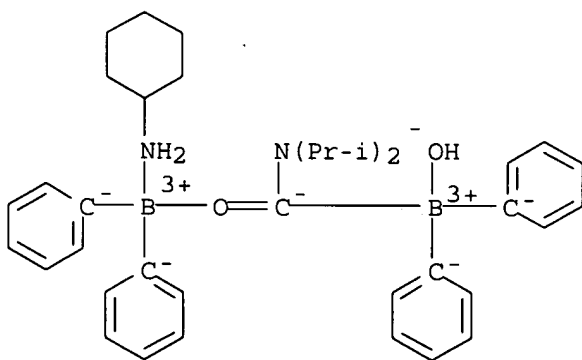
RN 81805-30-3 CAPLUS

CN Boron, [.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]](N,N-dimethylacetamide-O)hydroxytetraphenyldi- (9CI) (CA INDEX NAME)



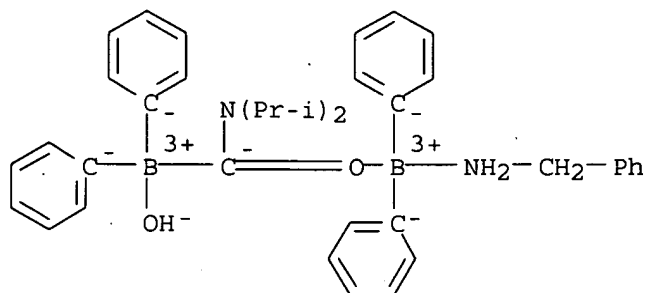
RN 81805-31-4 CAPLUS

CN Boron, [.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]](cyclohexanamine)hydroxytetraphenyldi- (9CI) (CA INDEX NAME)



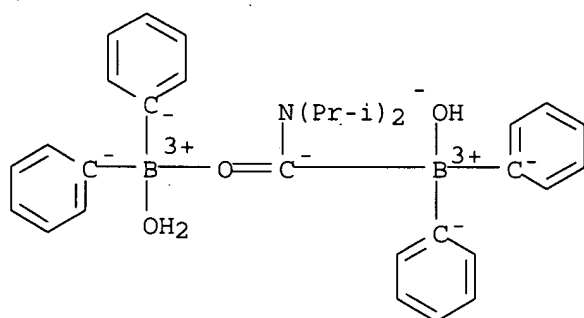
RN 81805-32-5 CAPLUS

CN Boron, (benzenemethanamine)[.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]]hydroxytetraphenyldi- (9CI) (CA INDEX NAME)



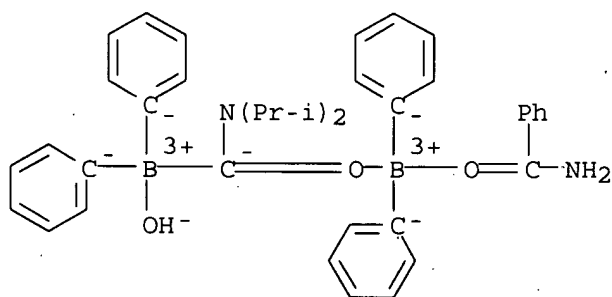
RN 81805-33-6 CAPLUS

CN Boron, aqua [.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]]hydroxytetraphenyldi- (9CI) (CA INDEX NAME)



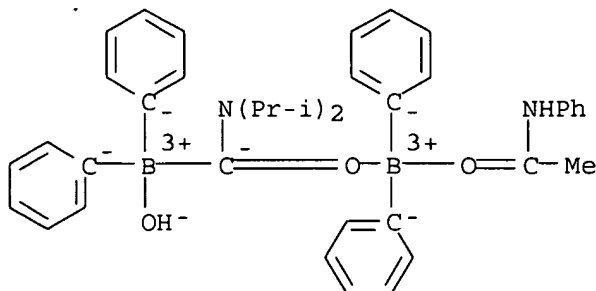
RN 81805-34-7 CAPLUS

CN Boron, (benzamide-O) [.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]]hydroxytetraphenyldi- (9CI) (CA INDEX NAME)



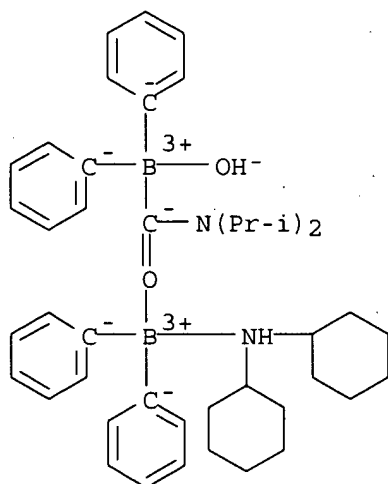
RN 81805-35-8 CAPLUS

CN Boron, [.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]]hydroxytetraphenyl (N-phenylacetamide-O)di- (9CI) (CA INDEX NAME)



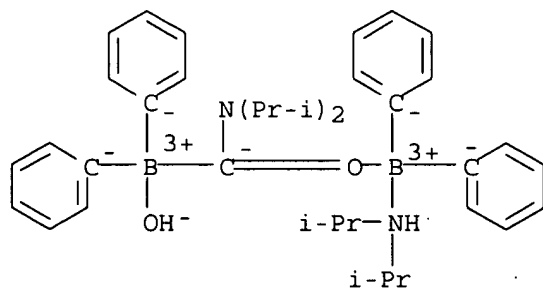
RN 81805-36-9 CAPLUS

CN Boron, [.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]] (N-cyclohexylcyclohexanamine)hydroxytetraphenyldi- (9CI) (CA INDEX NAME)

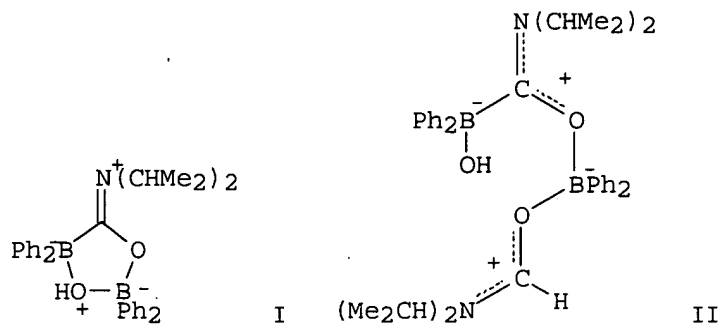


RN 81805-37-0 CAPLUS

CN Boron, [.mu.-[[bis(1-methylethyl)amino]carbonyl-C:O]]hydroxy [N-(1-methylethyl)-2-propanamine]tetraphenyldi- (9CI) (CA INDEX NAME)



GI



AB The B-contg. betaine I forms stable 1:1 addn. complexes with H₂O, amines and simple amides. NMR data indicate that the 1:1 complex of I with HCON(CHMe₂)₂ exists as II.

L4 ANSWER 202 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1982:143185 CAPLUS

DN 96:143185

TI A new method for the generation of a boron enolate of an ester. A new synthesis of 2-deoxy-D-ribose

AU Murakami, Masahiro; Mukaiyama, Teruaki

CS Fac. Sci., Univ. Tokyo, Tokyo, 113, Japan

SO Chemistry Letters (1982), (2), 241-4

CODEN: CMLTAG; ISSN: 0366-7022

DT Journal

LA English

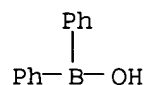
IT 2622-89-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with ethoxyacetylene and aldehydes in presence of mercuric acetate)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB A boron enolate of an ester was generated in situ by the treatment of EtOC.tplbond.CH with Hg(OAc)₂ and Ph₂BOH, and the boron enolate thus formed further reacted with aldehydes to give .beta.-hydroxyesters and .beta.-acetoxy esters in good yields. The reaction was successfully applied to the stereoselective synthesis of 2-deoxy-D-ribose.

L4 ANSWER 203 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1981:604028 CAPLUS

DN 95:204028

TI Synthesis of organoboron siloxanes and their reactions with organic hydroperoxides

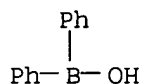
AU Chistova, E. V.; Alyasov, V. N.; Galiullina, R. F.; Maslennikov, V. P.; Dodonov, V. A.; Aleksandrov, Yu. A.

CS Nauchno-Issled. Inst. Khim., Gorkiy, USSR

SO Zhurnal Obshchei Khimii (1981), 51(5), 1078-85

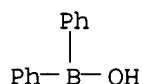
CODEN: ZOKHA4; ISSN: 0044-460X

DT Journal
LA Russian
IT **2622-89-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with triethyl- and triphenylsilanes)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

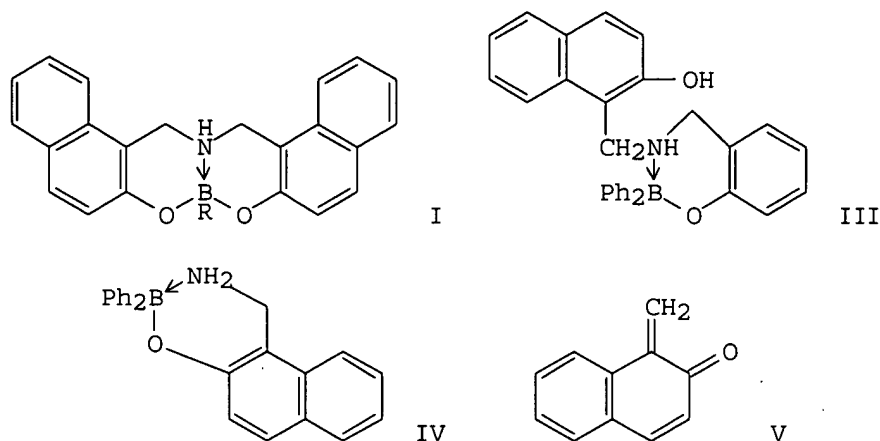


AB R3SiOBR12 [R = Et, R1 = Ph (I); R = R1 = Ph] were obtained in 80 and 73% yields by treatment of Ph2BOH with R3SiH at room temp. in the presence of H2PtCl6. Treatment of Bu2BOH with Et3SiOH in refluxing C6H6 gave 70% Et3SiOBBu2. Reaction of I with R2OOH (R2 = Me3C, PhCMe2) followed by hydrolysis of the resulting reaction mixt. gave Et3SiOH, PhB(OH)2, Me3COH, MeCH(OH)Me, and PhCMe:CH2. The reaction mechanism involves a reversible intermediate exchange of R3SiO in the starting borinate with the alkylperoxy group.

L4 ANSWER 204 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1981:515504 CAPLUS
DN 95:115504
TI Dioxazaborenines
AU Moehrle, Hans; Zuege, Erika
CS Inst. Pharm. Chem., Univ. Duesseldorf, Duesseldorf, 4000/1, Fed. Rep. Ger.
SO Archiv der Pharmazie (Weinheim, Germany) (1981), 314(7), 580-7
CODEN: ARPMAS; ISSN: 0365-6233
DT Journal
LA German
IT **2622-89-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bis(hydroxynaphthylmethyl)amine)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

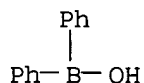


GI



AB Reaction of 2-C₁₀H₇OH with hexamethylenetetramine in the presence of B(OH)₃ in EtOCH₂CH₂OH gave the dioxazaborinane I (R = OH), which upon acid hydrolysis gave (2,1-HOC₁₀H₆CH₂)₂NH (II). Reaction of II with PhB(OH)₂ gave I (R = Ph), but reaction with (Ph₂B)₂O gave the labile chelate III, which upon heating undergoes amine elimination to give IV and V.

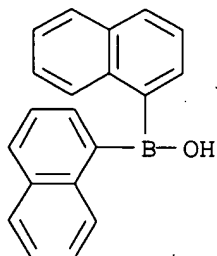
L4 ANSWER 205 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1981:149549 CAPLUS
 DN 94:149549
 TI Asymmetrically substituted diphenylcarbazones as chelate formers
 AU Czech, N.; Friese, B.; Umland, F.
 CS Anorg. Chem. Inst., Wilhelms-Univ. Muenster, Muenster, D-4400, Fed. Rep. Ger.
 SO Analytica Chimica Acta (1980), 121, 275-9
 CODEN: ACACAM; ISSN: 0003-2670
 DT Journal
 LA English
 IT **2622-89-1**
 RL: ANT (Analyte); ANST (Analytical study)
 (detn. of, (nitrophenyl)phenylcarbazones in spectrophotometric)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Two isomeric asym. substituted diphenylcarbazones, 1-(4-nitrophenyl)-5-phenylcarbazone and 1-phenyl-5-(4-nitrophenyl)carbazone, were synthesized by introducing 1 nitro group selectively. Their chelate complexes with several cations show increased molar absorptivities compared to those of the unsubstituted reagents, thus giving improved anal. sensitivity. The structure of the chelates is discussed; a 5-membered ring structure is very plausible.

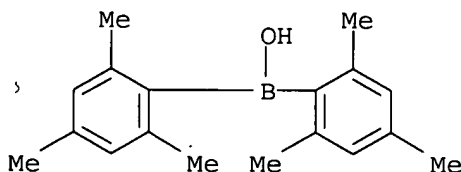
L4 ANSWER 206 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1980:620885 CAPLUS
 DN 93:220885

TI Reaction of diethylzinc with dialkyl(aryl)boric acids
 AU Galiullina, R. F.; Chistova, E. V.; Dodonov, V. A.
 CS Nauchno-Issled. Inst. Khim., Gorkiy, USSR
 SO Zhurnal Obshchei Khimii (1980), 50(7), 1657-8
 CODEN: ZOKHA4; ISSN: 0044-460X
 DT Journal
 LA Russian
 IT **62981-91-3**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with diethylzinc)
 RN 62981-91-3 CAPLUS
 CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



AB Reaction of Et₂Zn with R₂BOH in toluene at room temp. gave EtZnOBR₂ (I, R = Bu, .alpha.-naphthyl). Hydrolysis of I with H₂O gave EtH, Zn(OH)₂ and R₂BOH. Treating I with iodine gave EtI and R₂BOZnI.

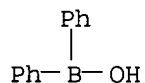
L4 ANSWER 207 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1980:586433 CAPLUS
 DN 93:186433
 TI Dimesitylboryl compounds. Part III. Oxygen derivatives
 AU Brown, N. M. D.; Davidson, F.; McMullan, R.; Wilson, J. W.
 CS Sch. Phys. Sci., New Univ. Ulster, Coleraine, UK
 SO Journal of Organometallic Chemistry (1980), 193(2), 271-82
 CODEN: JORCAI; ISSN: 0022-328X
 DT Journal
 LA English
 IT **20631-84-9P**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and NMR of)
 RN 20631-84-9 CAPLUS
 CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB Thirteen (2,4,6-Me₃C₆H₂)₂BOR (R = H, alkyl, CH₂CH:CH₂, CH₂C.tplbond.CH, Ph, PhCH₂, substituted-phenyl) were prepd. by treating dimesityl borinic acid with the corresponding alc. and their NMR data detd. The corresponding data for fluorodimesitylborane was also reported. As has

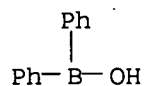
been found for other dimesitylboryl systems, the mesityl ^{13}C chem. shifts remain virtually unchanged with change in R. Thus, there is no B-aryl π -backbonding in such systems and that B-X π -bonding increases in the order $\text{N} > \text{O} > \text{F} > \text{C}$.

L4 ANSWER 208 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1980:567026 CAPLUS
 DN 93:167026
 TI Comparison between boron-11 and carbon-13 chemical shifts of threefold coordinated boron compounds and carbenium ions
 AU Wrackmeyer, Bernd
 CS Inst. Anorg. Chem., Univ. Muenchen, Munich, D-8000, Fed. Rep. Ger.
 SO Zeitschrift fuer Naturforschung, Teil B: Anorganische Chemie, Organische Chemie (1980), 35B(4), 439-46
 CODEN: ZNBAD2; ISSN: 0340-5087
 DT Journal
 LA German
 IT 2622-89-1
 RL: PRP (Properties)
 (NMR of boron-11 in)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



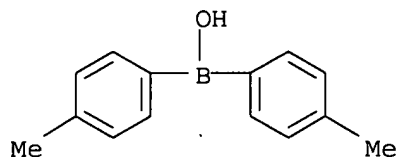
AB The relationship between ^{11}B chem. shifts ($\delta^{11}\text{B}$) of trigonal boranes and $^{13}\text{C}^+$ chem. shifts ($\delta^{13}\text{C}^+$) of carbenium ions was more complex than previously reported. The trends obsd. allow for the comparison of (pp) π -bonding between B and suitable substituents with the π -charge delocalization in carbenium ions. In case of the ferrocenyl boranes and ferrocenyl carbenium ions the markedly different trend in the shielding of ^{11}B and $^{13}\text{C}^+$ favors a fulvene-like structure for the substituted cyclopentadienyl ring in the latter. Structural features are analogously reflected by $\delta^{11}\text{B}$ and $\delta^{13}\text{C}^+$ data for both series of compds. Comparison of $\delta^{13}\text{C}$ data of organoboranes and carbenium ions is useful in conformational studies.

L4 ANSWER 209 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1980:214384 CAPLUS
 DN 92:214384
 TI Transformation of pyrocatechols with diaryl borinic acids to paramagnetic borate complexes
 AU Stegmann, Hartmut B.; Denninger, Guenter; Scheffler, Klaus
 CS Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400/1, Fed. Rep. Ger.
 SO Tetrahedron Letters (1979), (39), 3689-90
 CODEN: TELEAY; ISSN: 0040-4039
 DT Journal
 LA German
 IT 2622-89-1 66117-64-4 73774-44-4
 73774-45-5
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with pyrocatechols)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



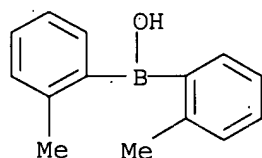
RN 66117-64-4 CAPLUS

CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



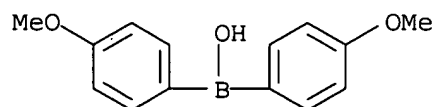
RN 73774-44-4 CAPLUS

CN Borinic acid, bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



RN 73774-45-5 CAPLUS

CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB HOBR2 (R = Ph, o- and p-tolyl, p-MeOC6H4) reacted with catechols I (R1 = Ph, Me) giving stable paramagnetic complexes II (same R, R1). ESR spectra of the solns. show the H hyperfine splitting of the catechol and the coupling with the 11B and 10B nuclei.

L4 ANSWER 210 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1980:164076 CAPLUS

DN 92:164076

TI Recovery of triarylboranes

IN Seidel, William C.

PA du Pont de Nemours, E. I., and Co., USA

SO U.S., 5 pp.

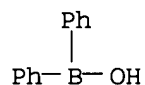
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4177215	A	19791204	US 1978-925550	19780717
	CA 1097691	A1	19810317	CA 1978-315024	19781031
				US 1978-925550	19780717
IT	2622-89-1				
	RL: RCT (Reactant); RACT (Reactant or reagent)				
	(sepn. of triphenylborane from)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



AB Ph3B was sepd. from Ph2BOH in basic aq. soln. in which the wt. ratio of Ph3B to Ph2BOH is <13:1. The soln. was neutralized to a pH .ltoreq. 0.037 [I]² + 0.048 [I] + 8.75 + log [Ph2BO-] where I = the ionic strength of the soln. which is maintained at 1M and [Ph2BO-] is the concn. of the salt of Ph2BOH in mol/L. Thus, an aq. soln. contg. 4.8 g Ph3B, 0.7 mL Ph2BOCHMe2, 2.8 g NaCl, and 1.2 g NaOH (wt. ratio of Ph3B-Ph2BOH = 7:9) was titrated with 1.074N HCl to a final pH of 7.6 and a borinate anion concn. of 0.043 mol. A white solid contg. 4.29 g Ph3B (96.1% yield from the adduct) and 0.152 g of Ph2BOH was recovered (Ph3B/Ph2BOH = 28). Only trace amts. of Ph3B were detected in the filtrate.

L4 ANSWER 211 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1979:525665 CAPLUS

DN 91:125665

TI Corrosion inhibitors as preservatives for metalworking fluids - ethanolamines

AU Bennett, E. O.

CS Univ. Houston, Houston, TX, 77004, USA

SO Lubrication Engineering (1979), 35(3), 137-44

CODEN: LUENAG; ISSN: 0024-7154

DT Journal

LA English

IT **71173-48-3**

RL: USES (Uses)

(lubricating oil additive, as corrosion inhibitor and antimicrobial agent)

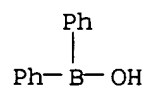
RN 71173-48-3 CAPLUS

CN Borinic acid, diphenyl-, compd. with 2-aminoethanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 2622-89-1

CMF C12 H11 B O



CM 2

CRN 141-43-5
CMF C2 H7 N O $\text{H}_2\text{N}-\text{CH}_2-\text{CH}_2-\text{OH}$

AB Fifty-nine monoethanolamines, diethanolamines, and triethanolamines were studied for their antimicrobial properties in 13 cutting fluid products. 2-(N-Amyl) ethanolamine [35161-67-2] exhibited outstanding activity in all of the products. Other compds. producing significant inhibition of microbial growth included N-Me ethanolamine [109-83-1], N-Et ethanolamine [110-73-6], N-Bu ethanolamine [111-75-1], 2-N-methyl-N-heptyl ethanolamine [71247-70-6], 2-cyclohexyl ethanolamine [2842-38-8], and N-benzyl ethanolamine [104-63-2].

L4 ANSWER 212 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1979:187016 CAPLUS

DN 90:187016

TI Thermal decomposition of organoborate salts

AU Fields, C. L.; Patnoe, R. L.; Leschnik, D.

CS Dep. Chem., Univ. Northern Colorado, Greeley, CO, USA

SO Analytical Calorimetry (1977), 4, 91-3

CODEN: ANCAD4; ISSN: 0066-1538

DT Journal

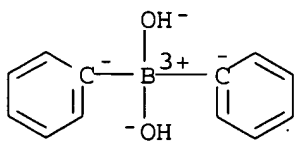
LA English

IT 70149-20-1 70149-22-3 70149-24-5

RL: RCT (Reactant); RACT (Reactant or reagent)
(thermal decompn. of)

RN 70149-20-1 CAPLUS

CN Borate(1-), dihydroxydiphenyl-, lithium, dihydrate, (T-4)- (9CI) (CA INDEX NAME)

● Li⁺● 2 H₂O

RN 70149-22-3 CAPLUS

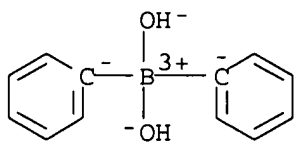
CN Borate(1-), dihydroxydiphenyl-, (T-4)-, sodium, compd. with 2-propanol
(1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 70149-21-2

CMF C12 H12 B O2 . Na

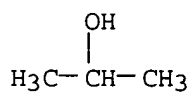
CCI CCS

● Na⁺

CM 2

CRN 67-63-0

CMF C3 H8 O



RN 70149-24-5 CAPLUS

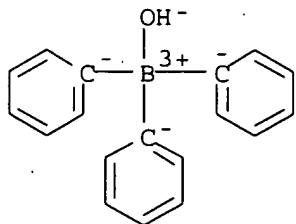
CN Borate(1-), hydroxytriphenyl-, (T-4)-, lithium, compd. with
1,1'-oxybis[ethane] (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 70149-23-4

CMF C18 H16 B O . Li

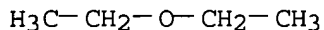
CCI CCS

Li⁺

CM 2

CRN 60-29-7

CMF C4 H10 O



AB Thermal decompn. of $\text{M}[\text{PhB}(\text{OH})_3]$ (I) and $\text{M}[\text{Ph}_2\text{B}(\text{OH})_2]\cdot\text{Q}$ [$\text{M} = \text{Li}, \text{Na}$; $\text{Q} = 2\text{H}_2\text{O}, \text{Me}_2\text{CHOH}$] gave benzene and MBO_2 . Decompn. of I proceeded through 1 or more intermediate phases.

L4 ANSWER 213 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1978:559644 CAPLUS

DN 89:159644

TI Effects of phenylboronic and diphenylborinic acid on the paper chromatographic mobilities of cardenolides and bufadienolides

AU Megges, R.; Streckenbach, Barbara; Repke, K. R. H.

CS Zentralinst. Molekularbiol., DAW, Berlin, Ger. Dem. Rep.

SO Journal of Chromatography (1978), 155(1), 169-77

CODEN: JOCRAM; ISSN: 0021-9673

DT Journal

LA German

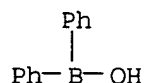
IT 2622-89-1

RL: ANST (Analytical study)

(bufadienolides and cardenolides paper chromatog. in presence of)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Phenylboronic acid and diphenylborinic acid were studied as to their influence on the paper chromatog. mobilities of cardenolides and bufadienolides with and without a cis-1,2- or cis-1,3-diol group. At low concns., phenylboronic acid and, at higher concns., diphenylborinic acid increased the mobility of nearly all investigated cis-1,3-diols with a tertiary OH-group. At higher concns. both acids enhanced the mobilities of most of the cis-1,3- and cis-1,2-diols without a tertiary OH-group. Thus, there are 2 basic prerequisites for the derivatization of cis-1,2- or cis-1,3-diols: (1) the capabilities of the diol to reach an O-O distance like that in phenylboronic acid esters or in diphenylborinic acid complexes and, (2) the absence of a considerable steric hindrance by a substituent near the reactive diol group. Among the 4 rhamnosides studied, being 1,2-diols, 2 do not react for unknown reasons.

L4 ANSWER 214 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1978:546345 CAPLUS

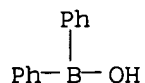
DN 89:146345

TI New method for catalytic synthesis of unsaturated alcohols from butadiene and boric acid

AU Dzhemilev, U. M.; Kunakova, R. V.; Minsker, D. L.; Vasil'eva, E. V.; Tolstikov, G. A.

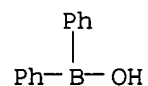
CS Inst. Khim., Ufa, USSR

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1978), (6), 1466-7
 CODEN: IASKA6; ISSN: 0002-3353
 DT Journal
 LA Russian
 IT **2622-89-1**
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (telomerization of butadiene with, unsatd. alcs. by)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

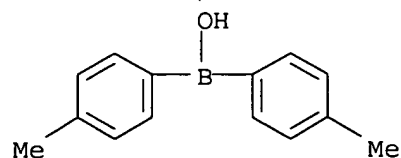


AB Treating butadiene with 20% aq. H₃BO₃ in 6:1 ratio in PhMe contg. 1:3:4
 Pd(acac)₂-Ph₃P-Et₃Al for 10 h at 70.degree. gave 25:15:60
 CH₂:CH(CH₂)₃CH:CHCH₂OH (I)-CH₂:CH(CH₂)₃CH(OH)CH:CH₂ (II)-
 CH₂:CHCH₂(CH₂CH:CHCH₂)₂OH in 80% combined yield after hydrolysis. Using
 Ph₂BOH for H₃BO₃ gave only I and II via the intermediate diphenylborinate
 esters.

L4 ANSWER 215 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1978:136709 CAPLUS
 DN 88:136709
 TI Reactions of diborane with organic derivatives of tin and lead
 AU Thorpe, F. G.; Breuer, S. W.; Pickles, G. M.; Spencer, T.; Podesta, J. C.
 CS Chem. Dep., Univ. Lancaster, Lancaster, UK
 SO Journal of Organometallic Chemistry (1978), 145(3), C26-C28
 CODEN: JORCAI; ISSN: 0022-328X
 DT Journal
 LA English
 IT **2622-89-1P 66117-64-4P**
 RL: FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, from hydrolysis of intermediates from reaction of
 diborane with phenyltin and phenyllead compds.)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 66117-64-4 CAPLUS
 CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



AB Diborane reacts with aryltin (e.g. Ph₄Sn) and aryllead compds. to give intermediates which on hydrolysis give arylboronic (e.g. PhB(OH)₂) and arylborinic acids, and on oxidn. give phenols (e.g. PhOH).

L4 ANSWER 216 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1978:39662 CAPLUS

DN 88:39662

TI Catalytic detoxification of combustion waste gases

IN Brantl, Victor

PA BRASEC G.m.b.H. Chemisch-Physikalisches Laboratorium, Fed. Rep. Ger.

SO Ger., 4 pp.

CODEN: GWXXAW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2500683	A1	19760715	DE 1975-2500683	19750109
				DE 1975-2500683	19750109

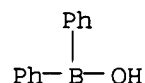
IT **2622-89-1**

RL: USES (Uses)

(gasoline additives, for exhaust gas pollutant redn.)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Defined amts. of certain Si, Al, B, Os, Pt, Ge, Sb, Sn, Ti, Pb, Cu, Zn, or Cr compds. are added to fuels either alone or in mixts., to reduce NO to N and to oxidize CO to CO₂ during combustion. The fuels (e.g., gasoline) are sprayed into the combustion chamber during the combustion step. The amts. of the compds. added are given in tabular form.

L4 ANSWER 217 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1977:406060 CAPLUS

DN 87:6060

TI Naphthylboryne: a monovalent organoboron carbene analog from photolysis of tri-1-naphthylboron

AU Ramsey, Brian G.; Anjo, Dennis M.

CS Dep. Chem., San Francisco State Univ., San Francisco, CA, USA

SO Journal of the American Chemical Society (1977), 99(9), 3182-3

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

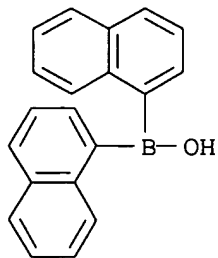
LA English

IT **62981-91-3P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 62981-91-3 CAPLUS

CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



AB Cyclohexanol and cis-1,2-cyclohexanediol are isolated after oxidn. and hydrolysis of the products of tri-1-naphthylboron (I) photolysis in cyclohexane and cyclohexene resp. Their isolation is evidence of C-H insertion and addn. to olefin bonds by the reactive intermediate, naphthylboryne (II). Products indicative of carbon chlorine insertion are obtained from photolysis of I in CCl₄. II is formed by a di- π -methane mechanism from I.

L4 ANSWER 218 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1976:560214 CAPLUS

DN 85:160214

TI Boron-nitrogen compounds. LXI. Studies on (2-pyridylamino)diphenylborane and some related species

AU Gragg, B. R.; Niedenzu, K.

CS Dep. Chem., Univ. Kentucky, Lexington, KY, USA

SO Journal of Organometallic Chemistry (1976), 117(1), 1-11

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

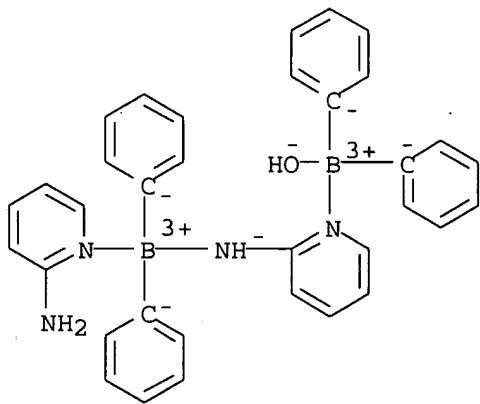
LA English

IT **61226-22-0P**

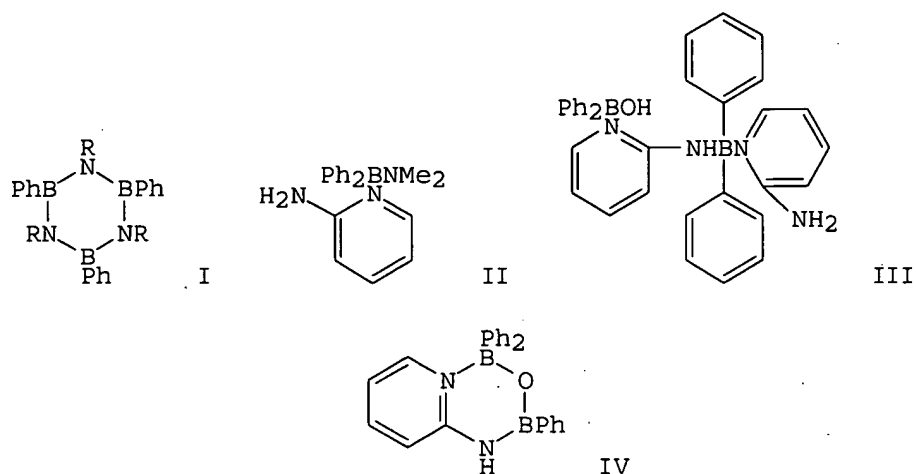
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 61226-22-0 CAPLUS

CN Boron, hydroxytetraphenyl[.mu.-(2-pyridinaminato-N1:N2)](2-pyridinamine-N1)di- (9CI) (CA INDEX NAME)



GI



AB (2-Aminopyridine)triphenylborane was prepd. from its acid-base pair constituents; pyrolysis of which yields borazine I (R = 2-pyridyl). An intermediate in the transamination of Me₂NBPh₂ with 2-aminopyridine to yield (2-pyridylamino)diphenylborane was isolated and was the 1:1 molar adduct II of Me₂NBPh₂ with 2-aminopyridine. Related to this 1:1 adduct is the initial product of the interaction of (2-pyridylamino)diphenylborane with water, which is the 1:1:1 adduct III of (2-pyridylamino)diphenylborane, HOBPh₂ and 2-aminopyridine; pyrolysis of III yields IV. IV was also obtained from the interaction of (2-pyridylamino)diphenylborane with O and with AcPh via O abstraction from the latter. (2-Pyridylamino)diphenylborane 1,2-aminoboronates one CO double bond of CO₂.

L4 ANSWER 219 OF 309 CAPLUS. COPYRIGHT 2003 ACS on STN

AN 1975:131728 CAPLUS

DN 82:131728

TI Correlations between carbon-13 and boron-11 chemical shifts. IV. Carbenium ions and their trigonal boron analogs

AU Spielvogel, Bernard F.; Nutt, W. Rodger; Izydore, Robert A.

CS Paul M. Gross Chem. Lab., Duke Univ., Durham, NC, USA

SO Journal of the American Chemical Society (1975), 97(6), 1609-10

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

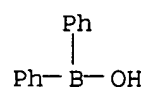
IT 2622-89-1

RL: PRP (Properties)

(NMR of, correlation with carbon-13 chem. shifts in carbenium ion analogs)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The ¹³C chem. shifts of 15 carbenium ions were compared with the ¹¹B

shifts in the analogous trigonal boron compds. The 11B shifts for 4 compds. were calcd. by using a pairwise additivity rule. With the exception of the triphenyl and cyclopropyldimethyl derivs., the shifts are linearly related. Least squares anal. of the 1st 9 compds. yields the equation, $\Delta(11B) = 0.384 \cdot \sigma(13C) - 31.6$. The slope is very close to that previously reported (0.40) in the linear correlation of 13C and 11B chem. shifts data between tetracoordinate boron and carbon species. The 13C shifts for a series of diphenyl- and mono-phenylcarbenium ions are pairwise additive, but with inclusion of the triphenylcarbenium ion, the rule is no longer obeyed. Discussions concerning the cyclopropyldimethyl and triphenyl derivs. are presented.

L4 ANSWER 220 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1975:104683 CAPLUS

DN 82:104683

TI Reactor reactivity control by coolant passage coating

IN Wheelock, Clifford W.

PA United States Atomic Energy Commission

SO U.S., 8 pp.

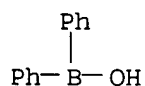
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3860482	A	19750114	US 1957-686262	19570925
				US 1957-686262	19570925
IT	2622-89-1				
	RL: PROC (Process)				
	(coatings, in nuclear reactor coolant channels, for reactivity control)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				

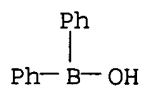


AB A method is described for controlling the reactivity in a nuclear reactor cooled by water. A n absorbing soln., consisting of a Cd compd., together with HF, is injected at a predetd. flux level into the coolant water. At least part of the Cd is deposited on the interior walls (of stainless steel or Al) of the cooling channels, thereby reducing the n multiplication factor of the reactor. For example, a n poison material consisting of a soln. of 50 wt. % Cd octoate [2191-10-8] in a compn. consisting of PhOH 37.5, resin of the glycerol ester of maleic acid 15, resin of the Me ester of abietic acid 45, and Et cellulose 2.5 parts is contained in a storage chamber attached to the cooling coil on the outside of the reactor core tank. Ar under pressure is used to force the soln. into the cooling channel when the n flux reaches 3 .times. 1012 thermal n/cm2-sec. About 6 of the 8 g of Cd in the soln. is deposited on the internal surface of the cooling tube within the reactor core. The n multiplication factor is reduced by .apprx.3%. The poison is removed by trichloroethylene.

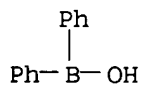
L4 ANSWER 221 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1974:83113 CAPLUS

DN 80:83113
TI Heterocyclic organoboron compounds. XVI. Chelated compounds with
.alpha.,.beta.-unsaturated .beta.-amino ketones
AU Bally, I.; Ciornei, E.; Vasilescu, A.; Balaban, A. T.
CS Inst. At. Phys., Bucharest, Rom.
SO Tetrahedron (1973), 29(20), 3185-7
CODEN: TETRAB; ISSN: 0040-4020
DT Journal
LA English
IT 2622-89-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with aminobenzylideneacetophenone)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.
AB .alpha.,.beta.-Unsatd. .beta.-amino ketones reacted with B compds. (e.g.
Ph2BOH, BF3) to give chelates. Thus Ph2BOH with MeCOCH:CMenH2 gave I.
L4 ANSWER 222 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1974:47322 CAPLUS
DN 80:47322
TI Determination of the hydroxyquinolizidine configuration in Sabadilla
alkamines with boron complexes
AU Moehrle, H.; Clauss, E.
CS Pharm. Inst., Freie Univ. Berlin, Berlin, Fed. Rep. Ger.
SO Archiv der Pharmazie (Weinheim, Germany) (1973), 306(10), 721-9
CODEN: ARPMAS; ISSN: 0365-6233
DT Journal
LA German
IT 51210-41-4P 51210-42-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 51210-41-4 CAPLUS
CN Cevane-3,4,12,14,16,17,20-heptol, 4,9-epoxy-, (3.alpha.,4.alpha.,16.beta.)-
, diphenylborinate (salt) (9CI) (CA INDEX NAME)
CM 1
CRN 2622-89-1
CMF C12 H11 B O

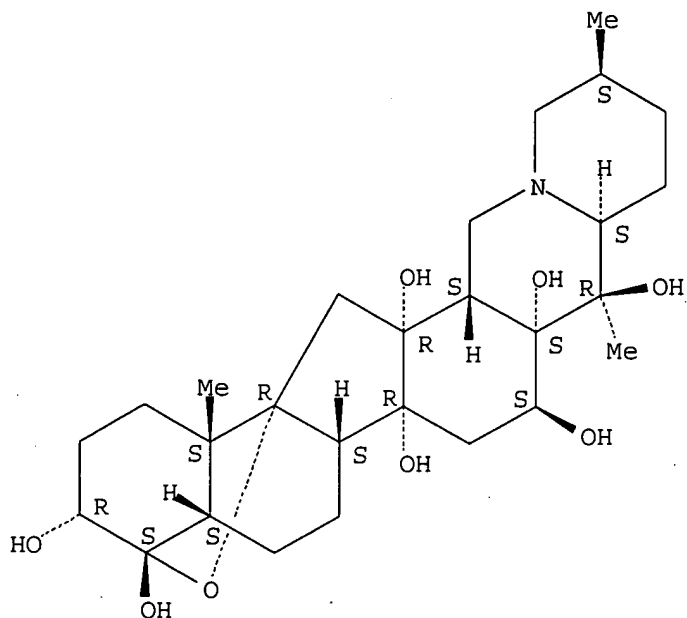


CM 2

CRN 124-98-1

CMF C27 H43 N O8

Absolute stereochemistry.



RN 51210-42-5 CAPLUS

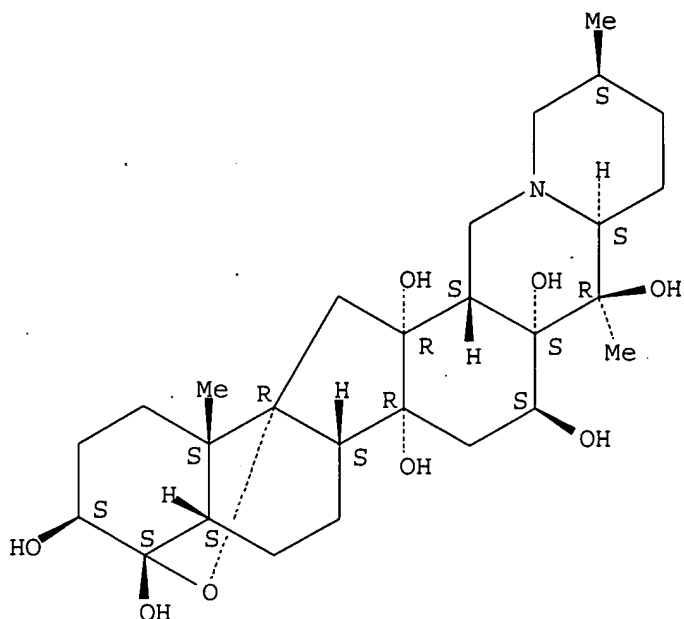
CN Cevane-3,4,12,14,16,17,20-heptol, 4,9-epoxy-, (3.beta.,4.alpha.,16.beta.)-, diphenylborinate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 5876-23-3

CMF C27 H43 N O8

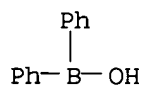
Absolute stereochemistry.



CM 2

CRN 2622-89-1

CMF C12 H11 B O



GI For diagram(s), see printed CA Issue.

AB Hydroxy-substituted amines as model compds., e.g., I ($n = 0$), reacted with pure Ph_2BOH , freshly prep'd. by HClO_4 -treatment of the boroxazolidine of 1-phenyl-2-morpholinoethanol and Na tetraphenylborate, to give the corresponding salts, e.g., II, whereas the analogous N-oxides I ($n = 1$) gave cyclic B betaines, e.g., III. Similarly reacted Sabadilla alkamines of quinolizidine type, e.g. cevine or veracevine, indicating the retention of the configuration during the prepn. of the N-oxides and the original stereochem. of the alkamines.

L4 ANSWER 223 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1974:14452 CAPLUS

DN 80:14452

TI Conformational dynamics of alkoxydiarylboranes

AU Finocchiaro, Paolo; Gust, Devens; Mislow, Kurt

CS Dep. Chem., Princeton Univ., Princeton, NJ, USA

SO Journal of the American Chemical Society (1973), 95(21), 7029-36

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

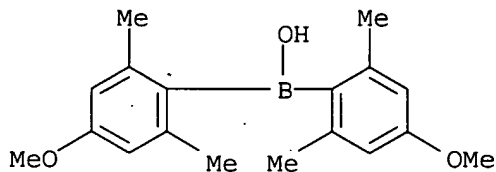
IT 50481-12-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

RN 50481-12-4 CAPLUS

CN Borinic acid, bis(4-methoxy-2,6-dimethylphenyl)- (9CI) (CA INDEX NAME)



AB The low-temp. $^1\text{H-NMR}$ spectra of several alkoxydiarylboranes are shown to be consistent with three alternatives: the mols. adopt propeller conformations, and stereoisomerization is slow on the NMR time scale; the mols. adopt propeller conformations with rapid stereoisomerization by means of one-flip pathways; the molecules adopt perpendicular conformations with slow stereoisomerization. Stereoisomerization phenomena obsd. at elevated temps. are discussed in terms of flip mechanisms, and pathways which involve the flipping of aryl groups only are found to have lower activation energies than those which also involve flipping of the alkoxy group. An anal. of the isomerization processes reveals restricted rotation about the B-O bond, and arguments are presented which suggest that conjugative effects between B and O play a significant role in the stereochemistry of alkoxyarylboranes.

L4 ANSWER 224 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1973:84899 CAPLUS

DN 78:84899

TI Electrolytically controlled termination of living anionic polymerization

AU Bhadani, S. N.

CS Dep. Chem., Ranchi Univ., Ranchi, India

SO Transactions of the SAEST (1972), 7(3), 98-99

CODEN: TSETA6; ISSN: 0036-0678

DT Journal

LA English

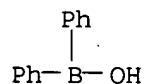
IT 2622-89-1P

RL: FORM (Formation, nonpreparative); PREP (Preparation)

(formation of, in electrochemical polymn. of methylstyrene in presence of sodium tetraphenylborate)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

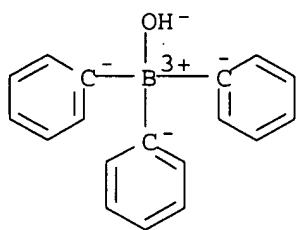


AB Analysis of the THF anode soln. in the Na tetraphenylboron [143-66-8]-catalyzed α -methylstyrene [98-83-9] electropolymn. showed the presence of diphenylboronous acid [2622-89-1], phenol [108-95-2], and biphenyl [92-52-4] as terminating species and indicated the occurrence of a 1-electron mechanism.

L4 ANSWER 225 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

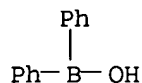
AN 1973:20869 CAPLUS

DN 78:20869
TI Critical equivalent electrical conductivities of ions in organic solvents at 25.deg.
AU Krumgal'z, B. S.
CS Sev.-Zapadn. Zaochn. Politekh. Inst., Leningrad, USSR
SO Elektrokimiya (1972), 8(9), 1320-5
CODEN: ELKKAX; ISSN: 0424-8570
DT Journal
LA Russian
IT 40905-43-9
RL: PRP (Properties)
(elec. cond. of, in ethylene chloride)
RN 40905-43-9 CAPLUS
CN Borate(1-), hydroxytriphenyl-, (T-4)- (9CI) (CA INDEX NAME)



AB The limiting equiv. conductances of more than 70 ions in 12 nonaq. solvents were evaluated by a special method. The solvents were: formamide, DMF, dimethylacetamide, nitromethane, nitrobenzene, o-dichlorobenzene, ethylidenechloride, pyridine, adiponitrile, 1,3-diaminopropane, and formic acid. The exptl. and evaluated data of the limiting equiv. conductances of salts in various solvents at 25.degree. were compared and a much better agreement was obtained. There are no anomalies in the solvation of cations in org. solvents. For anions, the character of the solvation effects is more complicated; not only is ionic size important but the capability of forming donor-acceptor bonds with the solvent mol. must also be considered.

L4 ANSWER 226 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1971:541072 CAPLUS
DN 75:141072
TI Paper electrophoretic and NMR studies of complexes between polyols and diphenylborinic acid
AU Garegg, Per J.; Lindstrom, Krister
CS Inst. Org. Kemi, Univ. Stockholm, Stockholm, Swed.
SO Acta Chemica Scandinavica (1947-1973) (1971), 25(5), 1559-66
CODEN: ACSAA4; ISSN: 0001-5393
DT Journal
LA English
IT 2622-89-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(electrophoresis of carbohydrates in solns. of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The electrophoretic mobilities of various aldoses, ketoses, xylose and glucose monomethyl ethers, glycosides, alditols, and inositols in diphenylborinate at pH 10 were examd. and compared with those in borate. Whereas borate can form different types of cyclic complexes with polyols, only one such complex is possible with diphenylborinate. Nevertheless, the mobilities for the various polyols in this buffer closely parallel those obtained in borate. The NMR spectrum of epi-inositol in borate at pH 10 shows inversion of the cyclohexane ring into the conformationally less stable chair form, presumably in order to form the favored tridentate complex involving 3 cis-axial oxygens and boron. By contrast, no such inversion occurs in the presence of diphenylborinate, although strong complexing (nontridentate) is obsd. In aq. solns. and under favorable steric conditions, strong tridentate complexes are formed between borate and polyols.

L4 ANSWER 227 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1970:531065 CAPLUS

DN 73:131065

TI Organoboron compounds. IX. Diborinic acids and their derivatives

AU Coutts, I. G. C.; Musgrave, Oliver C.

CS Chem. Dep., Univ. Aberdeen, Old Aberdeen, UK

SO Journal of the Chemical Society [Section] C: Organic (1970), (16), 2225-7
CODEN: JSOQAX; ISSN: 0022-4952

DT Journal

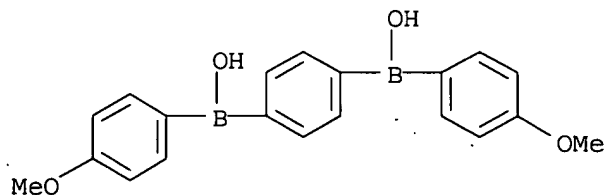
LA English

IT 29137-54-0P 29137-55-1P 29137-57-3P
29137-58-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 29137-54-0 CAPLUS

CN Borinic acid, p-phenylenebis[(p-methoxyphenyl)- (8CI) (CA INDEX NAME)



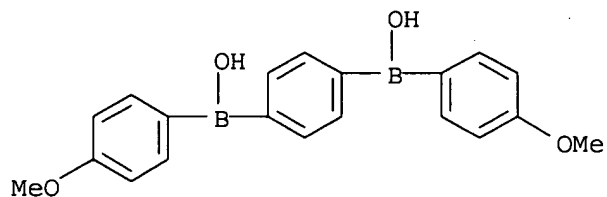
RN 29137-55-1 CAPLUS

CN Borinic acid, p-phenylenebis[(p-methoxyphenyl)-, compd. with
4-(dimethylamino)pyridine (1:2) (8CI) (CA INDEX NAME)

CM 1

CRN 29137-54-0

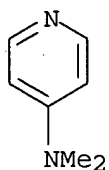
CMF C20 H20 B2 O4



CM 2

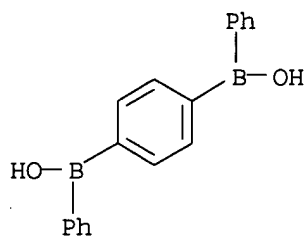
CRN 1122-58-3

CMF C7 H10 N2



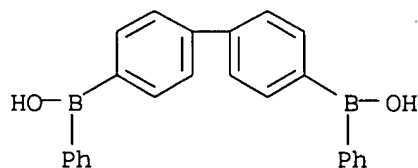
RN 29137-57-3 CAPLUS

CN Borinic acid, p-phenylenebis[phenyl- (8CI) (CA INDEX NAME)



RN 29137-58-4 CAPLUS

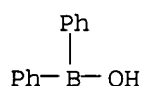
CN Borinic acid, 4,4'-biphenylenebis[phenyl- (8CI) (CA INDEX NAME)



AB By treatment with Grignard reagents esters of $(HO)_2BRB(OH)_2$ are converted into $RB(OH)R'B(OH)R$ ($R = Ph, Bu, p-MeOC_6H_4, cyclohexyl$; $R' = p-C_6H_4$; thien-2,5-diyl, $(CH_2)_4$, $(CH_2)_{10}$, $p-C_6H_4C_6H_4-p$) which are isolated in the form of their bis-2-aminoethyl esters. Acidification of the latter enables some of the free diborinic acids to be obtained. The hydrolysis, oxidn., and dehydration of the diborinic acids are described.

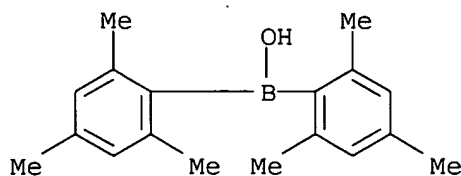
L4 ANSWER 228 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1969:53490 CAPLUS
DN 70:53490
TI Investigations on 1:1 chelates of curcumin with boric acid and phenylboric acids
AU Umland, F.; Pottkamp, F.
CS Univ. Muenster, Muenster, Fed. Rep. Ger.
SO Fresenius' Zeitschrift fuer Analytische Chemie (1968), 241(3), 223-34
CODEN: ZACFAU; ISSN: 0016-1152
DT Journal
LA German
IT **2622-89-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with curcumin)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Spectral studies of curcumin (I) and protonated I (10 ml. 2.7 .times. 10-4M) I soln. in peroxide-free dioxane with 3 ml. 1:1 phenol (II) -C6H6 and 0, 2, 4, 6, 10, or 20 ml. H2SO4-HOAc) indicated that II stabilized the protonated I (the quinonoid form). The absorptivity for II-contg. solns. was 73,600 mole/1.cm. The existence of 1:1 complexes of boric acid (III), phenylboric acid (IV), and diphenylboric acid (V) with I was shown. The dissocn. consts. KD of III-I chelates were 4 .times. 10-5 and 3 .times. 10-4 in HOAc and dioxane, resp., while KD for the IV-I complexes was 10-3 in dioxane and 10-4 when stabilized with II. KD for the V-I complex in dioxane was 7 .times. 10-5. The compds. with III and IV exist as diacetato- and phenylacetato-chelates of I, resp.

L4 ANSWER 229 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1968:447839 CAPLUS
DN 69:47839
TI Spectroscopic studies of organoboron compounds. II. Ultraviolet spectra of organoboron compounds
AU Lapkin, I. I.; Yuzhakova, G. A.
CS USSR
SO Uchenye Zapiski - Permskii Gosudarstvennyi Universitet imeni A. M. Gor'kogo (1966), No. 159, 270-5
CODEN: UPGGAZ; ISSN: 0372-4514
DT Journal
LA Russian
IT **20631-84-9**
RL: PRP (Properties)
(spectrum (uv) of)
RN 20631-84-9 CAPLUS
CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB The uv spectra (220-400 m.mu.) of alc. solns. of 22 tris(2-alkoxy-1-naphthyl)boranes and of complexes of tris(o-alkoxyphenyl)boranes with NH_3 , PhNH_2 , Me_2NH , p-toluidine, and pyridine were measured. The frequencies and absorptivities of the bands are tabulated. The spectra of the above complexes are given. The changes in spectra owing to the interaction of aromatic rings of the substituents with the central B atom are discussed.

L4 ANSWER 230 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1968:447731 CAPLUS

DN 69:47731

TI Spectroscopic studies of organoboron compounds. I. Infrared spectra of organoboron compounds

AU Lapkin, I. I.; Yuzhakova, G. A.

CS USSR

SO Uchenye Zapiski - Permskii Gosudarstvennyi Universitet imeni A. M. Gor'kogo (1966), No. 159, 264-9
CODEN: UPGGAZ; ISSN: 0372-4514

DT Journal

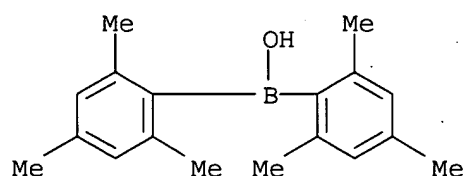
LA Russian

IT 20631-84-9

RL: PRP (Properties)
(spectrum (ir) of)

RN 20631-84-9 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB The ir spectra (750-1750 and 2750-3850 cm^{-1} , measured in Nujol mull) are given of 20 tris(2-alkoxy-1-naphthyl)boron compds. and of the complexes of tris(o-alkoxyphenyl)boron (I) compds. with NH_3 , PhNH_2 , p-toluidine (II), Me_2NH , and pyridine. The changes in spectra due to the interaction of aromatic rings of the substituents with the central B atoms are discussed. The main bands corresponding to the aromatic ring do not appear, practically, in the spectra of I, except the line at 1600 cm^{-1} ; only in the spectra of complexes with II, there appears clearly the 3rd of main bands at 1508-1517 cm^{-1} .

L4 ANSWER 231 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1968:68342 CAPLUS

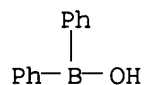
DN 68:68342

TI Standard enthalpy of formation of diphenylborinic acid

AU Finch, Arthur; Gardner, Peter J.; Watts, G. B.

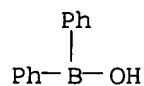
CS Roy. Holloway Coll., Englefield Green, UK

SO Chemical Communications (London) (1967), (20), 1054-5
CODEN: CCOMA8; ISSN: 0009-241X
DT Journal
LA English
IT **2622-89-1**
RL: PRP (Properties)
(heat of formation of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The standard enthalpy of formation (.DELTA.Hf0) of the title compd. (I) was detd. using standard ancillary data and data obtained from the hydrolysis of Ph2BCl in satd. aq. soln. of I and from oxidative hydrolysis of Ph2BCl in a soln. 0.1M in H2O2 and NaOH. Values for .DELTA.Hf0 of -77.4 .+- 1.8 kcal./mole and -31.9 .+- 1.8 kcal./mole were derived for I and Ph2BCl, resp. Using a previously obtained data for the heat of reaction of Ph2BCl, a .DELTA.Hf0 value of -16.1 .+- 1.9 kcal./mole was obtained for Ph2BBr. By using previously known heats of vaporization for the 2 halides, the bond energies of the B-C bond in Ph2BBr and Ph2BCl were calcd. to be 109.1 .+- 2.4 kcal./mole and 111.3 .+- 2.4 kcal./mole, resp.

L4 ANSWER 232 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1967:32478 CAPLUS
DN 66:32478
TI Thermochemistry of phenylboronic acid, diphenylborinic acid, and their anhydrides
AU Finch, Arthur; Gardner, Peter J.
CS Roy. Holloway Coll., Englefield Green, UK
SO Transactions of the Faraday Society (1966), 62(12), 3314-18
CODEN: TFSOA4; ISSN: 0014-7672
DT Journal
LA English
IT **2622-89-1**
RL: PRP (Properties)
(heat of formation of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Values for the standard enthalpies of formation of phenylboronic acid, diphenylborinic acid, phenylboronic anhydride, and phenylborninic anhydride are reported. 22 references.

L4 ANSWER 233 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1966:476761 CAPLUS
DN 65:76761

OREF 65:14361h,14362a-b

TI Seed protection with triarylborane complexes

IN Birnbaum, Herman A.; Anderson, Harvey L.

PA Minnesota Mining and Manufg. Co.

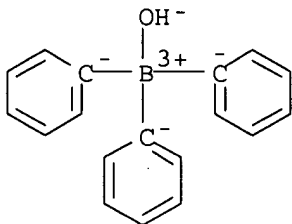
SO 6 pp.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3268401		19660823	US	19640615
IT	12113-07-4, Sodium hydroxide, compd. with Ph ₃ B (1:1) (mixt. with buffering agent, fungicidal activity of)				
RN	12113-07-4 CAPLUS				
CN	Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)				

● Na⁺

AB cf. CA 58, 2797d. The phytotoxicity of the title compds. (I) can be reduced by formulation with 3-10 parts of a solid buffer, e.g., Na₂CO₃, KHCO₃, or Ca(OH)₂, to maintain a pH of 7.5-12.5. Thus, the following I were prep'd. by mixing, in Et₂O, equimolar amts. of triarylborane and a Lewis base (II) with a pK_b <10 (aryl, II, m.p.): Ph, NH₃, 179-83.degree.; Ph, MeNH₂, 195-213.degree.; Ph, triethylenetetramine, 75-84.degree.; Ph, Me₂NH, 157-66.degree.; Ph, piperazine, 170-5.degree.; Ph, Me₃N, 132-8.degree.; Ph, pyridine, 182-202.degree.; Ph, 3,5-dichloropyridine, 112-15.degree.; Ph, bis(4-pyridyl)ethylene glycol, 173-81.degree.; Ph, .gamma.-picoline, 135-45.degree.; Ph, imidazole, 185-90.degree.; Ph, NaOH, >300.degree.; .alpha.-naphthyl, NH₃, 153-7.degree.; .alpha.-naphthyl, Et₂NH, 170-5.degree.; .alpha.-naphthyl, Me₃N, 156-8.degree.; 4-FC₆H₄, NH₃, 179-81.degree.; 4-FC₆H₄, Et₃N, 110-15.degree.; 4-MeOC₆H₄, NH₃, 138-42.degree.; 4-tolyl, NH₃, 143-56.degree.. Application of 0.03-1.0 oz. I/100 lb. corn, bean, oat, flax, or other seed protects the seeds from soil organisms, e.g., Pythium.

L4 ANSWER 234 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1966:455961 CAPLUS

DN 65:55961

OREF 65:10403h,10404a-b

TI Hydrocarbon oils

IN Timmons, Peter S.

PA "Shell" Research Ltd.

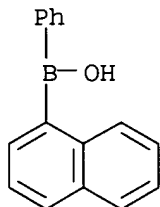
SO 9 pp.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1031533		19660602	GB	19620727
IT	13331-25-4, Borinic acid, 1-naphthylphenyl- (as sludge-inhibitor for fuels)				
RN	13331-25-4 CAPLUS				
CN	Borinic acid, 1-naphthalenylphenyl- (9CI) (CA INDEX NAME)				



AB Distillate hydrocarbon oils, particularly aviation kerosine, b. 80-350.degree.C. and contg. <0.01% ash to which are added 10-500 ppm. of an organoboronic or -borinic acid, e.g. phenylboronic acid, 4-chlorophenylboronic acid, 4-fluorophenylboronic acid, 4-bromophenylboronic acid, cyclohexylboronic acid, 2-furylboronic acid, 2-thienylboronic acid, and phenyl-1-naphthylborinic acid will show min. or no sludge formation or solids deposits. Numerous samples having 2 base oils (aviation kerosine) contg. various amts. of additives were subjected to 2 tests: (1) a modified form of CFR Fuel Coker Test (ASTM D-1660), in which a tank temp. of 300.degree.F., a preheater temp. of 350.degree.F., and a filter temp. of 450.degree.F. were used in place of the lower specified temps.; and (2) a bottle stability test, which consists in heating 100-ml. samples in 150-ml. conical flasks at 140.degree.C. for 14 days. A fuel which deposits sludge or is darker than a yellow color for up to 7 days fails to pass the test; the sludge is assessed visually after 14 days. The data showed that the compns. contg. the organoboron compd. gave less solid deposits and improved CFR Fuel Coker tests than the distillate hydrocarbon oils alone.

L4 ANSWER 235 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1966:443852 CAPLUS

DN 65:43852

OREF 65:8186f-g

TI Electric dipole hyperpolarizabilities for S-state atoms and ions

AU Langhoff, P. W.; Lyons, J. D.; Hurst, R. P.

CS Cornell Aeron. Lab., Buffalo, NY

SO Physical Review (1966), 148(1), 18-25

CODEN: PHRVAO; ISSN: 0031-899X

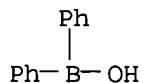
DT Journal

LA English

IT 2622-89-1, Borinic acid, diphenyl-
(electronic structure, energy levels, mol. orbitals and spectrum of)

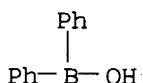
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Elec. dipole hyperpolarizabilities are calcd. for a large no. of 2- to 20-electron S-state atoms and ions. The calcns. are carried out within the framework of a Hartree-Fock perturbation procedure. This approxn. is developed to high order and it is shown explicitly that the total Hartree-Fock energy is obtained to 5th order from a knowledge of the Fock orbitals to 2nd order. The 1st- and 2nd-order coupled Hartree-Fock orbital equations are uncoupled in a direct manner and the resulting approx. equations solved by minimizing assocd. 1-electron functionals. The resulting hyperpolarizabilities for the He, Ne, and Ar series are all pos. The calcd. values for the inert gases agree with expt., within a factor of 2. Some of the high-Z hyperpolarizabilities for the Na, Mg, and K series are neg., while for the Li and Be series the values are large and pos. These interesting signs are discussed. The hyperpolarizabilities are quite sensitive to the choice of zeroth order Hartree-Fock function used in the calcn.

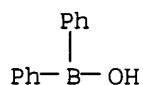
L4 ANSWER 236 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1966:104325 CAPLUS
 DN 64:104325
 OREF 64:19651a-h,19652a-b
 TI Hydroxylamine derivatives. XXVI. Acetals with N-hydroxydialkylamines
 AU Zinner, Gerwalt; Kliegel, Wolfgang
 CS Univ. Muenster, Germany
 SO Chemische Berichte (1966), 99(3), 895-902
 CODEN: CHBEAM; ISSN: 0009-2940
 DT Journal
 LA German
 IT 2622-89-1, Borinic acid, diphenyl-
 (oxime derivs.)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.
 AB ; cf. CA 64, 19597a. N-Hydroxydialkylamines were converted with aldehydes to O-semiacetals and with amines and hydrazines to mixed O,N-acetals which were cleaved by acyl chlorides to N-acyloxydialkylamines and .alpha.-chloroamines or -hydrazines. The oximes which can be regarded as N-hydroxyimines showed a corresponding behavior including the formation of stable dihydro-5-bora-1,3,4-dioxazoles from the semiacetals and Ph2BOH (I). Et2NOH (0.050 mole) and 0.025 mole CCl3CH(OH)2 fused carefully gave 44% RCH(OH)OX (II) (X = NEt2, R = CCl3) (III), m. 69-72.degree. (petroleum ether). Similarly were prepd. II (R = CCl3, X = morpholino), 40%, m. 103-6.degree. (petroleum ether-CHCl3), and (XO)2CHR (R = CCl3, X = piperidino), 53%, m. 68.degree. (petroleum ether). III (0.050 mole) refluxed 3 hrs. in 50 cc. Et2O with a small amt. dry Na2SO4 gave 4.3 g. 1-hydroxy-morpholine (IV), b8 86.degree., n20D 1.470, and 4.1 g. 1-formylmorpholine, b7 102-6.degree., m. 22-4.degree., n25D 1.484. The

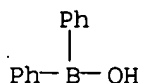
appropriate N-hydroxydialkylamine (0.1 mole) added dropwise at room temp. to 0.1 mole aq. CH₂O, treated with 0.1 mole appropriate amine or hydrazine, and satd. after 1 hr. with K₂CO₃ yielded the corresponding R₂NOCHR'NR''₂ (V) listed in the 1st table. (PhCH₂)NOH (0.05 mole) and 0.050 mole aq. CH₂O refluxed with 50 cc. EtOH to soln., treated with 4.35 g. morpholine and 5.0 g. CaO and refluxed 6 hrs. gave 6.7 g. unreacted (PhCH₂)₂NOH, m. 124.degree. and 25% (PhCH₂)₂NOCH₂NR''₂ (NR''₂ = morpholino), m. 71-4.degree. (petroleum ether). BzH, Et₂NOH, and Et₂NH (0.10 mole each) heated 30 hrs. on the water bath with 10.0 g. K₂CO₃ and 10.0 g. CaO and kept 1 hr. at room temp. yielded 20% V (R = R' = Et, R' = Ph), b_{0.04} 74.degree., n_{20D} 1.5026. Similarly was prepd. V (R₂N = R''₂N = piperidino, R' = Ph) (XI), 50%, b_{0.001} 111.degree., n_{20D} 1.5325. Et₂NOH and aq. CH₂O (0.1 mole each) with 0.050 mole aq. MeNH₂ gave similarly 40% (Et₂NOCH₂)₂NMe, b₉ 113.degree., n_{20D} 1.4368. In the same manner as the V were prepd. the following R₂NOCHR'NR₁NR₂ XII (R₂N, R', R₁, R₂, b.p./mm., n_{20D}, and % yield given): Et₂N, H, Me, Me, 70-2.degree./12, --, 40; piperidino, H, Me, Me (XIII), 105.degree./12, 1.4620, 60; piperidino, H, cyclohexyl, Me (XIV), 88-9.degree./0.01, 1.4848, 60; morpholino, H, Me, Me, 114-16.degree./15, 1.4635, 50; iso-Pr₂N, H, Me, Me (XV), 88.degree./9, 1.4412, 70. IV (10.3 g.) and 5.0 g. each K₂CO₃ and CaO treated dropwise at room temp. successively with 7.2 g. iso-PrCOCl and 8.7 g. morpholine yielded 12.6 g. N-(2-methylpropenyl)morpholine (XVa), b₁₁ 60-58.degree., n_{20D} 1.4461, and 8.3 g. unreacted IV, b₁₁, 87-91.degree., n_{20D} 1.470. A similar run with 20.6 g. IV gave 2.3 g. XVa, b₁₃ 64.degree., n_{20D} 1.4667, 9.8 g. IV, n_{20D} 1.470, and 16.6 g. N-(1-morpholinoisobutyloxy)morpholine, b₁₁ 145-50.degree., b_{0.01} 95.degree., n_{20D} 1.4742. A few drops IV in 2 cc. EtOH heated briefly with a few drops iso-PrCHO, treated with Ph₂BOCH₂CH₂NH₂ (XVI), and boiled briefly gave XVII, m. 152-4.degree. (EtOH). The appropriate V or XII (0.050 mole) in 50 cc. dry Et₂O treated dropwise very slowly with stirring with 0.050 suitable acyl chloride in 50 cc. dry Et₂O, filtered from the pptd. ClCHR'NR''₂ (XVIII) or ClCHR'NR₁NR₂ (XIX), resp., and worked up gave the corresponding R₂NO₂CR' (XX). In this manner were prepd. the XVIII and XX listed in the 2nd table. XIII gave similarly 80% XX (R₂N = piperidino, R' = Ac), b₁₃₈₈.degree., and 75% ClCHMeNMeNMe₂, decomp. 162.degree.. XIV yielded 79% XX (R₂N = piperidino, R' = EtO₂C), b₁₂ 110-12.degree., n_{20D} 1.4530, and 100% ClCH₂NMeNMe₂, decomp. 80-2.degree.. XV gave 85% XX (R = iso-Pr, R' = EtO₂C), b₁₁, 87-9.degree., n_{20D} 1.4242, and 92% ClCH₂NMeNMe₂, m. 161.degree.. Cyclohexanone oxime (XXI) (3.5 g.) and 5.1 g. CCl₃CH(OH)₂, refluxed 4 hrs. in 40 cc. CH₂Cl₂ with 5.0 g. Na₂SO₄ yielded 100% O-(2,2,2-trichloro-1-hydroxy-ethyl)cyclohexanone oxime, m. 107.degree. (CH₂Cl₂-petroleum ether). XXI (11.3 g.) in 0.1 mole aq. CH₂O treated with cooling and stirring with 0.050 mole aq. MeNH₂ and satd. after 1 hr. with K₂CO₃ yielded 46% N,N-bis(cyclohexylideneaminooxymethyl) methylamine, b_{0.05} 127-30.degree., n_{20D} 1.5027. XXI, piperidine, and aq. CH₂O (0.1 mole each) yielded similarly 76% O-piperidinomethyl deriv. (XXII) of XXI, b_{0.01} 80.degree., b₁₀ 143-5.degree., n_{20D} 1.4957. XXII cleaved with BzCl in dry Et₂O gave 100% OBz deriv. (XXIII) of XXII, m. 63.degree., and 100% 1-chloromethylpiperidine. XXI, aq. CH₂O, and aq. Me₂NH (0.1 mole each) gave similarly 65% OMe₂NCH₂ deriv. of XXI, b₁₂ 97.degree., n_{25D} 1.4737. XXI, aq. CH₂O, and MeNH-NH₂ (0.1 mole each) yielded 57% OMe₂NNMe deriv. (XXIV) of XI, b_{0.01} 74.degree., b₃₆ 145-50.degree. n_{20D} 1.4790, which cleaved with BzCl gave 90% XXIII, m. 64.degree., and 100% ClCH₂NMeNMe₂, m. 162.degree.. A small amt. XXI, 2 cc. EtOH, and 0.5 cc. aq. CH₂O heated briefly, treated with a small amt. XVI, and boiled briefly again yielded XXV (X = cyclohexylidene), m. 137-8.degree.. Me₂C:NOH gave similarly XXV (X = Me₂C:), m. 148-9.degree. (EtOH).

L4 ANSWER 237 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1966:71259 CAPLUS
DN 64:71259
OREF 64:13369c-d
TI Analytical spectroscopic investigation of the relation between structure and complexing capacity of certain metal-chelating agents in the azomethine series
AU Umland, F.; Poddar, B. K.; Stegemeyer, H.
CS Univ. Muenster, Germany
SO Zeitschrift fuer Analytische Chemie (1966), 216(1), 125-50
CODEN: ZANCA8; ISSN: 0372-7920
DT Journal
LA German
IT **2622-89-1**, Borinic acid, diphenyl-
(electronic structure, hydrogen bonds, ionization and spectra of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB A no. of o-mono-and o,o'-disubstituted azo-methines were prepd. and their complexes with Cu, Zn, and Cd were studied. From the ir spectra a relation between intramol. H bond, ring size, and stability of the chelates was derived. Six-membered chelate rings are far more stable than 5-membered rings. Five-membered chelate rings are formed only when stabilized by a 6-membered ring in the same chelate. From the C:N absorption band it follows that in 6-membered rings mainly the free electron pair of the N participate in chelation. In 5-membered chelates, however, the .pi.-electrons of the double bond also participate. Tridentate chelate reagents form 1:1 chelates with 1 coordination position unoccupied which is subject to synergetic effects by monodentate ligands in liquid-liquid extn. Useful sepns. by extn. and detns. by photometry can be performed by using these synergetic effects.

L4 ANSWER 238 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1966:63296 CAPLUS
DN 64:63296
OREF 64:11863h,11864a-c
TI Photometric determination of diphenylborinic acid and its esters with diphenylcarbazone
AU Thierig, D.; Umland, F.
CS Westfaelischen Wilhelms-Univ., Muenster, Germany
SO Zeitschrift fuer Analytische Chemie (1966), 215(1), 24-30
CODEN: ZANCA8; ISSN: 0372-7920
DT Journal
LA German
IT **2622-89-1**, Borinic acid, diphenyl-
(detn. of, diphenylcarbazone in)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



(esters, detn. of, diphenylcarbazone in.

AB The blue 1:1 diphenylcarbazone-Ph₂BOH complex is catalyzed by the addn. of 5% PhOH and has an absorption max. at 590 m.mu. with a molar absorptivity of 4 .times. 10⁴ l./mole-cm. in C₆H₆ soln. The complex is analyzed at its max. in the range 1-40 .gamma. in 10 ml. of C₆H₆ soln. with a standard deviation of 0.12 .gamma. and a variance of 0.9%. The PhB(OH)₂ complex has an absorption max. at 560 m.mu. with 1/60 the intensity of the diphenyl complex. The solvent has a strong effect on the intensity of the colors. For example, 10-4-10-5M solns. gave only weak blue or no color when 50% of MeOH, tetrahydrofuran, or dioxane was added to the C₆H₆ solns. of the complexes. 8-Hydroxyquinolinium tetraphenylborate is dissolved in hot AcOH, boiled 1 min., and cooled to ice temp. to give, upon drying at 100.degree. 8-hydroxyquinolinato-(O,N-B)-diphenylboron, m. 203-4.degree. (EtOH). Mixing 150 ml. of an alc. soln. contg. 950 mg. of diphenylborinic acid, aminoethyl ester with 300 ml. of a soln. contg. 430 mg. of bis(2-pyridyl)glycol gives on standing 12 hrs. at room temp. a white ppt., which, upon washing with 50 ml. of EtOH and drying at 80.degree. is pure bis(2-pyridyl)-glycolatobis[(O,N-B)-diphenylboron], m. 267-8.degree. turning orange above 200.degree.. A soln. of 700 mg. of Pb(OAc)₂.3H₂O and 470 mg. of dimethylglyoxime in 30 ml. of hot HOAc is treated with 2 g. of NaBPh₄ boiled 3 min., and cooled. A 25% yield of bis[(O,O-B)-diphenylboron], m. 307.degree. (dichloroethane).

L4 ANSWER 239 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1966:59376 CAPLUS

DN 64:59376

OREF 64:11063g-h,11064a-b

TI A nuclear magnetic resonance study of hydrogen bonding in tris(2-N-methylaminoethyl) borate and similar compounds

AU Meek, Devon W.; Springer, Charles S., Jr.

CS Ohio State Univ., Columbus

SO Inorg. Chem. (1966), 5(3), 445-50

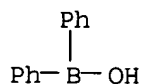
DT Journal

LA English

IT 2622-89-1, Borinic acid, diphenyl-
(electronic structure, spectrum of)

RN 2622-89-1 CAPLUS

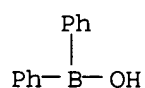
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB B(OCH₂CH₂NH₂)₃ and the analogous N-methylamino and N,N-dimethylamino compds. were prepd. by the transesterification of Me borate with the appropriate 2-aminoethanol. The N.M.R. spectra show that extensive assocn. of the terminal amino groups occurs in pure tris(N-methylaminoethyl) borate and that this assocn. can be broken apart by heating to 160.degree. or by dissoln. in polar org. solvents such as triethylamine or MeCN. In order to det. whether the assocn. results from H bonding or internal B-N coordination, several model systems were

investigated. The spectra of $\text{NH}_2\text{C}_2\text{H}_5\cdot\text{BF}_3$, piperidine $\cdot\text{BF}_3$, and $\text{Ph}_2\text{BOCH}_2\text{CH}_2\text{NH}_2$ in MeCN contain very complicated NCH₂ peaks and broad NH peaks which appear at low applied magnetic field (τ . 5.26-5.56). The broadening of the NH peak in the B-N adducts is attributed to the effect of the ^{14}N quadrupole, whereas the complex splitting of the NCH₂ multiplet is attributed to coupling with ^{11}B in the dative bond with N and possibly with the N protons. The spectra of $\text{B}(\text{OCH}_2\text{CH}_2\text{NH}_2)_3$ and $\text{B}(\text{OCH}_2\text{CH}_2\text{NHCH}_2)_2$, on the other hand, show sharp NH peaks at τ . 7.84, 6.78 and contain 2 sharp triplets attributed to the two sets of methylene protons in the $-\text{OCH}_2\text{CH}_2\text{N}<$ units (τ .OCH₂ 6.26-6.55; τ .NCH₂ 7.23-7.57). The N-H peak of $\text{B}(\text{OCH}_2\text{CH}_2\text{NHCH}_3)_3$ appears as a sharp singlet in MeCN solns. owing to rapid exchange of the amine proton. Evidence is presented that the exchange is catalyzed by a trace (<8.7 ppm.) of water in the hygroscopic solvent, MeCN, even after rigorous drying. All of the data indicate that intermol. H bonding strongly predominates over N \rightarrow B dative bonding in the association of $\text{B}(\text{OCH}_2\text{CH}_2\text{NHCH}_3)_3$.

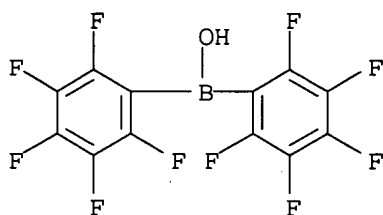
L4 ANSWER 240 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1966:27646 CAPLUS
 DN 64:27646
 OREF 64:5125g-h,5126a-b
 TI Reaction of β -oxo enols with diphenylborinic esters
 AU Bally, Ioana; Arsene, A.; Bacescu-Roman, Maria; Balaban, A. T.
 CS Inst. At. Phys., Bucharest, Rom.
 SO Tetrahedron Letters (1965), (44), 3929-31
 CODEN: TELEAY; ISSN: 0040-4039
 DT Journal
 LA English
 IT 2622-89-1, Borinic acid, diphenyl-
 (esters, reaction with β -oxo enols)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.
 AB cf. CA 64, 4902e; preceding abstr. $\text{Ph}_2\text{BOCH}_2\text{CH}_2\text{NH}_2$ and β -oxoenols (1,3-diketones or α -acylphenols) refluxed 5-10 hrs. in C_6H_6 , the cooled soln. (dild. with petroleum ether) filtered and the stable compds. recrystd. from C_6H_6 , MeCN, or alc. gave the yellow cryst. products (I or II) as tabulated (formula, R1, R2, R3, m.p., λ max. in m. μ . (MeCN) given): I, Ph, H, Ph, 227.degree. 391, 309, 300, 279sh; I, Ph, H, p-MeOC₆H₄, 231.degree. (decompn.), 400, 334, 309, 300, 284; I, p-MeOC₆H₄, H, p-MeOC₆H₄, 283.degree., 420, 404, 314, 269; I, Me, H, p-MeOC₆H₄, 209.degree., 365, 320, 310, 270; I, Me, Me, Me, 135.degree., 338, 310, 278sh; II, H, --, --, 149.degree., 375, 309, 280; Me, --, --, 115.degree. (decompn.), 364, 309, 275. In KBr pellets, the ir spectra gave one band at 1595-1620 cm^{-1} in the range 1600-2000 cm^{-1} due to aryl groups. Bands due to B-O stretching vibrations appeared at 1300-1370 cm^{-1} . The products I have the same skeleton as previously described compds. with R1 = R2 = F, R1 = R2 = alkyl, and R1R2 = 1,2-benzodioxo (CA 61, 10610e).

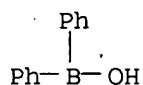
L4 ANSWER 241 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1965:439178 CAPLUS

DN 63:39178
OREF 63:7028g-h,7029a
TI Polyfluoroaryl organometallic compounds. II. Pentafluorophenylboron halides and some derived compounds
AU Chambers, R. D.; Chivers, T.
CS Univ. Durham, UK
SO Journal of the Chemical Society, Abstracts (1965) 3933-9
CODEN: JCSAAZ; ISSN: 0590-9791
DT Journal
LA English
IT 2118-02-7, Borinic acid, bis(pentafluorophenyl)-
(prepn. of)
RN 2118-02-7 CAPLUS
CN Borinic acid, bis(pentafluorophenyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB cf. CA 62, 6501d. Pentafluorophenylboron dihalides $C_6F_5BX_2$ ($X = Cl$ or F) are prep'd. by cleavage of trimethylpentafluorophenyltin, dimethylbis(penta-fluorophenyl)tin and methylpentafluorophenylmercury with boron halides; and bis(pentafluorophenyl)boron chloride, $(C_6F_5)_2BCl$, can be obtained by reaction of dimethylbis(pentafluorophenyl)tin with 1 mol. BCl_3 . Unlike the perfluoroalkyl or perfluorovinyl compds., the perfluoroaryl derivs. do not decomp. by migration of F from C to B ; on heating, the dihalides disproportionate; $2C_6F_5BX_2 \rightarrow (C_6F_5)_2BX + BX_3$ ($X = Cl$ or F). Careful hydrolysis of the di- and monohalides gave pentafluorophenylboronic acid and bis(pentafluorophenyl)borinic acid, resp. These acids show an unusual susceptibility to nucleophilic cleavage of the org. groups and a resistance to dehydration. The N.M.R. spectra of pentafluorophenylboron compds. indicate π - p interaction in the tricovalent boron derivs.

L4 ANSWER 242 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1965:422178 CAPLUS
DN 63:22178
OREF 63:3894a-c
TI The electrochemical oxidation of white phosphorus
AU Barry, Michael L.
CS Univ. of California, Berkeley
SO (1964), AEC Accession No. 5589, Rept. No. UCRL-11573, 155 pp. Avail.: OTS
From: Nucl. Sci. Abstr. 19(3), 627 (1965).
DT Report
LA English
IT 2622-89-1, Borinic acid, diphenyl-
(oxidn. of, electrochem.)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The electrochem. oxidn. of liquid and solid white P impregnated in porous conducting matrixes in alk., neutral, and acidic electrolytes was investigated. Rates of the spontaneous disproportionation-decompn. reactions of P and the simple P oxyacids in these electrolytic solns. were also measured. Coulometric studies of the P electrode were made by comparing the rates of formation of H_3PO_4 , H_3PO_3 , H_3PO_2 , PH_3 , and H at known c.ds. to the rates of formation at zero c.d. The half-cell potentials measured for the P electrodes (relative to the standard H electrode) ranged from 1.08 v. in 10N NaOH to 0.00 v. in 10N H_2SO_4 compared to theoretical values of 1.83 v. and 0.48 v. for the oxidn. of P to phosphite or H_3PO_3 in these solns. In alk. media the electrode potentials were actually established by PH_3 produced from the disproportionation-decompn. reactions of P. The reasons for the low electrode potentials in acidic media are not known. In a Ag amalgam matrix in neutral and acidic media, P was quant. oxidized to H_3PO_3 and H_3PO_4 with overall coulombic efficiencies approaching 100% at c.ds. up to 10 ma./cm.² The coulometric results in alk. media were obscured by the effects of the simultaneous disproportionation-decompn. reactions of P.

L4 ANSWER 243 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1964:494425 CAPLUS

DN 61:94425

OREF 61:16476g-h

TI Triarylborane complexes, a new series of broad-spectrum germicides

AU Updegraff, D. M.

CS Minnesota Mining & Manufg. Co., St. Paul, MN

SO Journal of Infectious Diseases (1964), 114, 304-10

CODEN: JIDIAQ; ISSN: 0022-1899

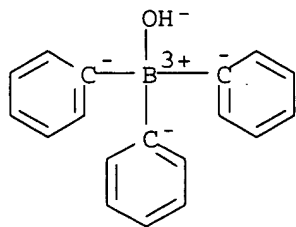
DT Journal

LA Unavailable

IT **12113-07-4**, Sodium hydroxytriphenylborate
(bactericidal, fungicidal and protozoacidal action of)

RN 12113-07-4 CAPLUS

CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)

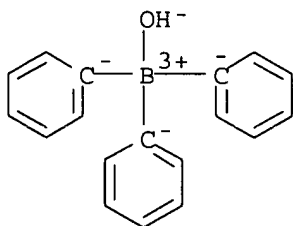


● Na⁺

AB More than 100 coordination complexes of triarylboranes with amines and substituted phosphines were screened against bacteria and fungi, and

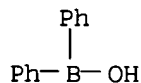
selected members were also screened against protozoa. The chem. stable complexes of triphenylborane and tris(para-substituted phenyl)borane were powerful broad-spectrum germicides, fungicides, and protozoicides.

L4 ANSWER 244 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1964:494424 CAPLUS
 DN 61:94424
 OREF 61:16476f-g
 TI Effect of L-cysteine on .alpha.-amylase production and nucleic acid metabolism in *Bacillus subtilis*
 AU Oishi, Michio; Kitayama, Shigeru; Takahashi, Hajime; Maruo, Bunji
 CS Univ. Tokyo
 SO Journal of General and Applied Microbiology (1963), 9(3), 337-41
 CODEN: JGAMA9; ISSN: 0022-1260
 DT Journal
 LA Unavailable
 IT 12113-07-4, Sodium hydroxytriphenylborate 95493-42-8, Borinic acid, diphenyl-, sodium salt (bactericidal, fungicidal and protozoacidal action of)
 RN 12113-07-4 CAPLUS
 CN Borate(1-), hydroxytriphenyl-, sodium, (T-4)- (9CI) (CA INDEX NAME)



● Na⁺

RN 95493-42-8 CAPLUS
 CN Borinic acid, diphenyl-, sodium salt (6CI, 7CI) (CA INDEX NAME)

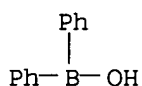


Na

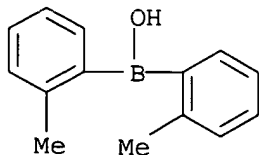
AB In *B. subtilis*, 10-4M L-cysteine caused an almost complete inhibition of adenine incorporation into ribo- and deoxyribonucleic acids and 2 .times. 10-5M amts. suppressed .alpha.-amylase production to 80-90% of the controls. The latter inhibition was reversed by unidentified compds. in yeast ext.

L4 ANSWER 245 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1964:90951 CAPLUS
 DN 60:90951
 OREF 60:15899b-e
 TI A novel disproportionation of arylboronic acids
 AU Dewar, Michael J. S.; Dougherty, Ralph C.
 CS Univ. of Texas, Austin
 SO Tetrahedron Letters (1964), (15-16), 907-11
 CODEN: TELEAY; ISSN: 0040-4039
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (prepn. and storage of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 73774-44-4, Borinic acid, di-o-tolyl-
 (prepn. of)
 RN 73774-44-4 CAPLUS
 CN Borinic acid, bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.
 AB In an attempt to synthesize 4,6-dimethyl-2-phenyl-2,3-borazaropyridine (I), 20 g. triphenylboroxine and 20 g. acetylacetone was added to a mixt. of 2.5 g. tert-BuOK and PhMe in a Dean-Stark app., and refluxed 24 hrs. in a current of NH₃ till no H₂O was evolved to give 12.4 g. 2,2-diphenyl-4,6-dimethyl-1H-boroxazine (II), m. 101-1.5.degree., whose structure was evidenced by its infrared and nuclear magnetic resonance spectra. II arose by disproportionation of phenylboronic acid to diphenylborinic acid. This mechanism was confirmed by a synthesis of II from diphenylborinic acid, acetylacetone, and NH₃ in 82% yield, and by an expt. in which triphenylboroxine was heated alone with tert-BuOK in xylene; diphenylborinic acid was isolated as its ethanolamine deriv. Similarly, tri-o-tolylboroxine and tert-BuOK in xylene gave di-o-tolylborinic acid, characterized by its reaction with acetylacetone and NH₃ to give 71% 2,2-di(o-tolyl)-4,6-dimethyl-1H-boraxazine, m. 125-5.5.degree.. Its structure was consistent with its nuclear magnetic resonance spectrum. This disproportionation was a general reaction for arylboronic acids; alkylboronic acids were recovered. The mechanism of the reaction was discussed.

L4 ANSWER 246 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1964:90950 CAPLUS
 DN 60:90950

OREF 60:15899a-b

TI Preparation and storage of diphenylborinic acid and its anhydride

AU Chremos, G. N.; Weidmann, H.; Zimmerman, H. K.

CS A. & M. Coll. of Texas, College Station

SO Journal of Organic Chemistry (1961), 26(5), 1683

CODEN: JOCEAH; ISSN: 0022-3263

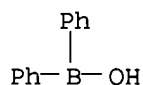
DT Journal

LA Unavailable

IT 2622-89-1, Borinic acid, diphenyl-
(prepn. and storage of)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The ethanolamine ester (I) of diphenylborinic acid (II) may be prep'd. and kept up to 3 years without decompn. When free II was required, I in MeOH was hydrolyzed by addn. of M HCl. II was extd. with petr. ether (30-60.degree.), washed with M HCl and distd. H2O, dried, and evapd. until the diphenylborinic anhydride pptd.

L4 ANSWER 247 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1964:64120 CAPLUS

DN 60:64120

OREF 60:11306h,11307a

TI Arylboric acids X. Action of some organoboron compounds on wheat roots and on pollen and distribution of 14C-labeled benzeneboronic acid in plants

AU Torssell, Kurt

CS Univ. Stockholm

SO Physiologia Plantarum (1963), 16(1), 92-103

CODEN: PHPLAI; ISSN: 0031-9317

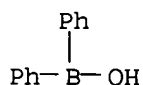
DT Journal

LA Unavailable

IT 2622-89-1, Borinic acid, diphenyl-
(plant regulator action of)

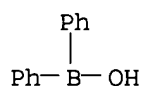
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB cf. CA 54, 22437h. Isobutane- and hexaneboronic acids slightly stimulated root elongation at 10-5M, but diphenyl- and dianisylborinic acids did not and were toxic at higher concns. The bifunctional m- and p-benzenediboronic acids had peaks of stimulation at 10-5M, but then became toxic. Flax, pea, and cress responded in the same general way. Benzeneboronic acid (I) had slight stimulation for growth of pollen of Tulipa fosteriana. 14C-I or its degradation products were quickly and uniformly distributed throughout the bean plant. After 18 hrs. only traces of unchanged I could be detected.

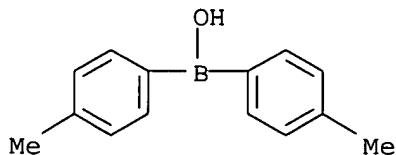
L4 ANSWER 248 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1964:27474 CAPLUS
 DN 60:27474
 OREF 60:4851g
 TI The acidity of diphenyl hydroxyborane
 AU Chremos, George N.; Zimmerman, Howard
 CS Case Inst. Technol., Cleveland, OH
 SO Chim. Chronika (Athens, Greece) (1963), 28(9), 103-7
 DT Journal
 LA English
 IT 2622-89-1, Borinic acid, diphenyl-
 (reactions and spectrum of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The degradation of diphenyl hydroxyborane (I) in H₂O and aq. dioxane at 25.degree. was studied. The reaction was followed by the disappearance of a ultraviolet absorption max. at 234 m.mu. and appearance of a weak absorption at 266 m.mu.. The rates were calcd. and showed that the reaction was 1st order. A mechanism was suggested which successfully predicted the use of HCl for the stabilization of aq. solns. of I. Protolysis dissocn. consts. at 15-55.degree. for I were also detd.

L4 ANSWER 249 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1963:462546 CAPLUS
 DN 59:62546
 OREF 59:11557c-e
 TI Aryl polyboronic acids and esters
 IN Washburn, Robert M.; Billig, Franklin A.
 PA American Potash & Chemical Corp.
 SO 5 pp.
 DT Patent
 LA Unavailable

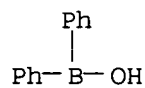
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3090801		19630521	US	19560706
IT	66117-64-4, Borinic acid, di-p-tolyl- (prepn. of)				
RN	66117-64-4 CAPLUS				
CN	Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)				



AB Aryl Na compds. (I) react smoothly with borate esters (II) to give high yields of areneboronic acids, diareneborinic acids, or triarylborines. I,

which were not stable, were preferably prepd. from the aromatic halide (III) and finely-dispersed metallic Na (IV). I can be added to II, II can be added to I, or III, II, and IV can be combined together. In an example, 23 g. Na in 23 g. xylene added to 56.3 g. PhCl and 155.9 g. (MeO)₃B at a rate to keep the temp. at 25-30.degree., treated with MeOH and H₂O to hydrolyze PhB(OMe)₂, azeotropically distd. with H₂O to remove xylene, MeOH, and reaction products gave, upon cooling the residue, 41% PhB(OH)₂, m. 216.degree..

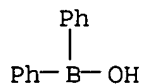
L4 ANSWER 250 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1963:33497 CAPLUS
DN 58:33497
OREF 58:5714e-g
TI Reactions of ephedrine bases with diphenylboric acid. I. Constellation of alkanolamines
AU Roth, H. J.; El Din, N. Nour
CS Tech. Hochschule, Braunschweig, Germany
SO Arch. Pharm. (1962), 295, 679-89
DT Journal
LA Unavailable
IT **2622-89-1**, Borinic acid, diphenyl-
(prepn. of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.
AB The ephedrine (I) base (0.005 mole) in 10 ml. MeOH was treated with 10 ml. 0.007 molar Ph₂BOH in MeOH and the soln. concd. on a water bath to 1/2 vol. to give the corresponding 2,2-diphenylboroxazolidine [I base, % yield, m.p., and R_f value (6:1:1 BuOH-EtOH-H₂O) given]: norephedrine, 80, 185.degree., 0.67; pseudonorephedrine, 82, 258-61.degree., 0.70; I, 78, 221-2.degree., 0.73; pseudoephedrine, 80, 178-9.degree., 0.68; N-methylephedrine, 90, 207-8.degree., 0.65; N-methylpseudoephedrine, 96, 184.degree. 0.72. The rate of formation of the boraxazotidine derivs. of the ephedrine compds. was markedly lower than that of the pseudo series. It was suggested that in alc. soln. in the presence of Ph₂BOH and alk. the pseudo bases had the constellation II while the normal series had the constellation III.

L4 ANSWER 251 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1963:33496 CAPLUS
DN 58:33496
OREF 58:5714d-e
TI Catalytic dehydrocondensation of phenyldichlorosilane with benzene
AU Mal'nova, G. N.; Mikheev, E. P.
SO Plasticheskie Massy (1962), (8), 20-3
CODEN: PLMSAI; ISSN: 0554-2901
DT Journal
LA Unavailable
IT **2622-89-1**, Borinic acid, diphenyl-
(prepn. of)
RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Dehydrocondensation occurs between PhSiHCl_2 (I) and benzene in the presence of boric acid catalyst. When a 1:1 ratio of I to benzene is heated in an autoclave for 5.5 hrs. at 250.degree., the pressure reaches 103 atm. and remains steady. The H yield is 0.31 mole/mole of I, and the yield of Ph_2SiCl_2 (II) is 20%. The known disproportionation of I permits dehydrocondensation of benzene with the H-contg. disproportionation products. An approx. calcn. indicates that about 70% of the yield of II is derived from condensation of I with benzene, and about 30% results from the disproportionation of I. The side reactions are diminished by diln. with benzene. E.g., a 1:3 ratio of I and benzene, when heated to 260.degree. for 4.5 hrs., produces 0.46 mole H/mole I, and the yield of II is increased to 30%.

L4 ANSWER 252 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1963:27392 CAPLUS

DN 58:27392

OREF 58:4589e-g

TI Possible quantitative coupling of radicals bound to a central atom of an element. II. Organoboron compounds

AU Lapkin, I. I.; Yuzhakova, G. A.

CS State Univ., Perm

SO Zhurnal Obshchei Khimii (1962), 32, 1967-9

CODEN: ZOKHA4; ISSN: 0044-460X

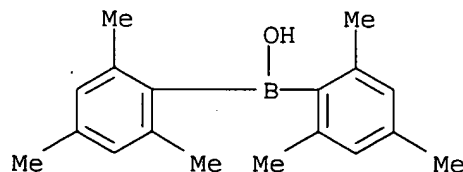
DT Journal

LA Unavailable

IT 20631-84-9, Borinic acid, dimesityl-
(prepn. of)

RN 20631-84-9 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



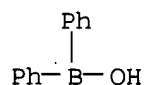
GI For diagram(s), see printed CA Issue.

AB cf. CA 55, 14346b. $\text{BF}_3\text{-Et}_2\text{O}$ and 3 moles 2,4,6- $\text{Me}_3\text{C}_6\text{H}_2\text{MgBr}$ in Et_2O gave dimesitylborinic acid, m. 141.degree.; when the reaction was run in refluxing MePh 8 hrs., the product was (2,4,6- $\text{Me}_3\text{C}_6\text{H}_2$) $_3\text{B}$, m. 193.degree.. Similarly was prepd. 21-76% I (R and m.p. given): Me, 262.degree.; Et, 217.degree.; PrO, 176.degree.; Bu, 140.degree.; Am, 114.degree.; iso-Pr, 218.degree.; iso-Bu, 154.degree.; and iso-Am, 102.degree.. No bis(2-alkoxy-1-naphthyl)borinic acids could be isolated from these reactions, owing to facile symmetrization of such substances. Conformational analysis of the trimesitylboron showed that the 3 aromatic rings must exist out of planar configuration. The above alkoxynaphthyl

derivs. were not oxidized by air at room temp.; the same was true also of di(o-substd. triaryl) boron derivs. The latter do not react with NH₃, amines or ethers.

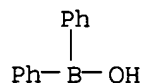
L4 ANSWER 253 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1963:14982 CAPLUS
 DN 58:14982
 OREF 58:2471g-h
 TI Arylboronic and diarylborinic acids and their esters and anhydrides
 IN Rosinger, Herbert P.; Yates, John; Wright, William E.
 PA "Shell" Research Ltd.
 SO 6 pp.
 DT Patent
 LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 906145		19620919	GB	19591130
IT	2622-89-1, Borinic acid, diphenyl- (prepn. of)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



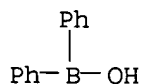
AB Arylboron compds. are prepd. by treating an arylmagnesium chloride with a boric acid triester. In an example Mg turnings 13.6 parts were treated under anhyd. conditions under N with a soln. of PhCl 56.4 in dry redistd. xylene 170 parts by vol. together with a crystal of iodine. The mixt. was stirred and refluxed 5 hrs. Xylene 180 was added and the resulting Grignard suspension added slowly to a soln. of 60 parts Me borate in 160 parts by vol. xylene at -30.degree. under N and anhyd. conditions. The mixt. was stirred 2 hrs., then hydrolyzed at 10.degree. with 20% H₂SO₄ 300 parts. Extn. of the aq. layer with xylene gave phenylboronic acid anhydride. In other examples Pr borate, Bu borate, and iso-Bu borate were used. The 2-aminoethyl ester of diphenylborinic acid was also prepd.

L4 ANSWER 254 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1962:73541 CAPLUS
 DN 56:73541
 OREF 56:14311a-c
 TI Deboronation: Formation of phenylboronic anhydride from diphenylhydroxyborane in the presence of amides
 AU Zimmerman, Howard K., Jr.
 CS A. & M. Coll. of Texas, College Station
 SO Journal of Organic Chemistry (1961), 26, 5214-15
 CODEN: JOCEAH; ISSN: 0022-3263
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
(reaction with amides)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

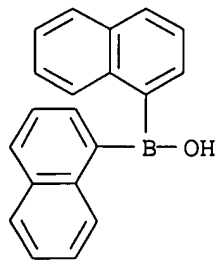


AB Diphenylhydroxyborane (I) treated in PhMe gave 44% recovery of bis(diphenylboron) oxide (II). No phenylboronic anhydride was formed. AcNH₂ (0.8 g.) with 450 ml. PhMe treated with I from 3 g. di-B-phenylboroxazolidine (III), the mixt. azeotropically distd., and the residue crystd. overnight gave 1.3 g. phenylboronic anhydride (IV), m. 214-16.degree.. IV also characterized by prepn. from N-ethyl-B-phenyl-diptychboroxazolidine. PhMe (200 ml.) I (from 3 g. III) azeotropically distd. and crystd. gave 1.85 g. IV and benzamide. Phthalimide (1.3 g.) with 200 ml. PhMe azeotropically distd. with I (from 2 g. III) gave 1.2 g. phthalimide, and the filtrate gave 0.1 g. IV. I (3g.) in 160 ml. PhMe distd. to 3-5 ml. after 4 hrs. gave 1 g. II, m. 116-18.degree.. The results suggested that the crucial property required of a deboronating agent may be its Lewis base character rather than any oxidizing power per se.

L4 ANSWER 255 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1962:66979 CAPLUS
 DN 56:66979
 OREF 56:12918d-e
 TI Aminoditolyborane and the preparation of diarylborinic acids
 AU Coates, G. E.; Livingstone, J. G.
 CS Durham Coll., UK
 SO Journal of the Chemical Society, Abstracts (1961) 4909-11
 CODEN: JCSAAZ; ISSN: 0590-9791
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl- 62981-91-3, Borinic acid, di-1-naphthyl- 66117-64-4, Borinic acid, di-p-tolyl- 73774-44-4, Borinic acid, di-o-tolyl- 89566-59-6, Borinic acid, bis(p-chlorophenyl)- 96484-29-6, Borinic acid, bis(p-bromophenyl)- (prepn. of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

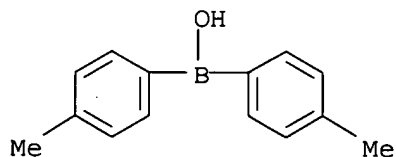


RN 62981-91-3 CAPLUS
 CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



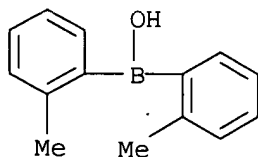
RN 66117-64-4 CAPLUS

CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



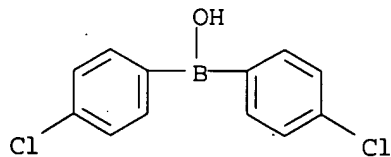
RN 73774-44-4 CAPLUS

CN Borinic acid, bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



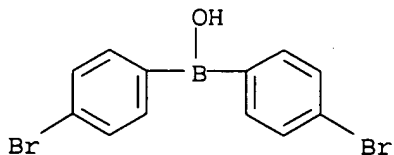
RN 89566-59-6 CAPLUS

CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)



RN 96484-29-6 CAPLUS

CN Borinic acid, bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



AB The following route to diarylborinic acids was investigated: $\text{BCl}_3 + \text{Ph}_2\text{NH}$.fwdarw. Cl_2BNPh_2 (I). I + ArMgX .fwdarw. Ar_2BNPh_2 (II). II + $\text{H}_2\text{O} + \text{H}_2\text{NCH}_2\text{CH}_2\text{OH}$.fwdarw. $\text{Ar}_2\text{BOCH}_2\text{CH}_2\text{NH}_2$ (III). III + HCl .fwdarw. Ar_2BOH . Only a slight excess of Grignard reagent is used, making this procedure more economical than present ones. The yields of III are in the range of 51-93% and there is no contamination by boronic acids. The following new acids and their 2-aminoethyl esters were prepd. (R in $\text{R}_2\text{BOR}'$); o-MeOC₆H₄, m.p. of ester 164-5.degree.; PhC.tplbond.C, m.p. of ester 172-4.degree., of acid 98-100.degree.; 3,4-Me₂C₆H₃, m.p. of ester 204-6.degree..

L4 ANSWER 256 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1962:53528 CAPLUS

DN 56:53528

OREF 56:10187c-i,10188a

TI Organic compounds of boron and phosphorus

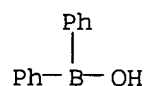
IN Birum, Gail H.; Dever, James L.

PA Monsanto Chemical Co.

DT Patent

LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3014952		19611220	US	19590320
IT	2622-89-1, Borinic acid, diphenyl- (esters, with di-Et (hydroxyalkyl)phosphonates)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



AB Phosphinyl esters of boron acids, useful as insecticides, lubricant additives, plasticizers, flameproofing agents, and especially for inhibiting the preignition of leaded fuels, were prepd. by the reaction of a B compd. contg. a halogen atom, a carbonyl compd., and an alkyl, or haloalkyl phosphite, phosphonite, or phosphinite. In an example, 32.0 g. 4,4,6-trimethyl-2-chloro-1,3,2-dioxaborinane added to 32.8 g. $\text{P}(\text{OEt})_3$ and 11.4 g. EtCHO dropwise during 10 min. at 15-20.degree., the mixt. allowed to reach room temp., heated to 50.degree., the EtCl removed in vacuo, and the residue concd. to 100.degree./0.1 mm. gave 97.7% 2-[1-(diethoxyphosphinyl)propoxy]-4,4,6-trimethyl-1,3,2-dioxaborinane, n_{25D} 1.4346. Likewise prepd. were the following (product, % yield, n_{25D} given): 2-[1-(diethoxyphosphinyl)propoxy]-5,5-dimethyl-1,3,2-dioxaborinane, 99.3, 1.4415, b0.1-0.15 128-30.degree.; 2-[1-(diethoxyphosphinyl)ethoxy]-5,5-dimethyl-1,3,2-dioxaborinane, -, 1.4400, b0.05 111-14.degree.; 2-[.alpha.-(diethoxyphosphinyl)furfuryloxy]-5-ethyl-5-methyl-1,3,2-dioxaborinane, 99, 1.4727; 2[1-(diethoxyphosphinyl)cyclohexyloxy]-5-ethyl-5-methyl-1,3,2-dioxaborinane, 99, 1.4651; 2-[1-(dimethoxyphosphinyl)propoxy]-4-methyl-1,3,2-dioxaborinane, 99.3, 1.4420; 2-[.alpha.-(diethoxyphosphinyl)-2-chlorobenzyloxy]-5-ethyl-5-methyl-1,3,2-dioxaborinane, -, 1.4952; 2-(1-diethoxyphosphinyl)propoxy]-5-ethyl-4-propyl-1,3,2-dioxaborinane, -, 1.4413; 2-[1-(dimethoxyphosphinyl)-3-carbethoxypropoxy]-1,3,2-dioxaborinane, 93, 1.4521; 2-[.alpha.-(dimethoxyphosphinyl)-.alpha.-methylbenzyloxy]-4-methyl-1,3,2-dioxaborinane, 94, 1.5048; 2-[2-(diethoxyphosphinyl)-2-propoxy]-1,3,2-dioxaborolane, -, -;

2-[1-(diethoxyphosphinyl)propoxy]-4-methyl-1,3,2-dioxaborinane, 100, 1.4372; 2-[1-(diethoxyphosphinyl)-2,2,2-trichloroethoxy]-5-ethyl-5-methyl-1,3,2-dioxaborinane, 97, 1.4770; 2-[.alpha.-(diethoxyphosphinyl)-4-methylbenzyloxy]-5-ethyl-5-methyl-1,3,2-dioxaborinane, -, 1.4913; 2-[2-(diethoxyphosphinyl)propoxy]-1,3,2-dioxaborinane, -, 1.4438; tris[1-(diethoxyphosphinyl)ethyl] borate, -, 1.4368; tris[1-(diethoxyphosphinyl)propyl] borate, -, -; tris[1-(diisopropoxyphosphinyl)propyl] borate, -, 1.4347; tris[1-[bis(2-chloroethoxy)phosphinyl]ethyl]borate, -, -; 2-chloropropyl bis[1-(dihexyloxyphosphinyl)propyl] borate, -, -; bis(2-chloropropyl) 1-(diisopropoxyphosphinyl)-2-methylpropyl borate, -, 1.4383; bis(2-bromopropyl) 1-(diethoxyphosphinyl)propyl borate, -, -; bis(2-chloropropyl) 1-[bis(2-chloroethoxy)phosphinyl]propyl borate, -, -; Bu 1-(diethoxyphosphinyl)propyl benzenboronate, 98.4, 1.4780; 3-diethoxyphosphinyl-3-pentyl diphenylborinate, 95, 1.5458; bis[1-(diethoxyphosphinyl)propyl] benzenboronate, 97.7, 1.4870; .alpha.-diethoxyphosphinyl-4-methoxybenzyl diphenylborinate, 95, 1.5581; dibutyl .alpha.-bis(2-ethylhexyloxy)phosphinyl benzyl borate, 98, 1.4635; decyl bis[1-(diethoxyphosphinyl)propyl] borate, 97.6, 1.4373; dibutyl 1-(diethoxyphosphinyl)propyl borate, 100, 1.4219; diallyl 1-(dimethoxyphosphinyl)-2-trichloroethyl borate, -, 1.4782; diallyl 1(ethoxyphenylphosphinyl)propyl borate, -, -; diallyl 1(diphenylphosphinyl)propyl borate, -, 1.5680; S,S-dibutyl 1-(diethoxyphosphinyl)propyl dithioborate, 90, -; S-ethyl bis[1-(diethoxyphosphinyl)propyl] thioborate, -, -; S,S-dibutyl 1-(diethoxyphosphinyl)-2,2-dimethyl-4-cyanobutyl dithioborate, -, -; bis[1-(diethoxyphosphinyl)propoxy]dimethylaminoborane, 89, 1.4514; dipiperidino-2-[(diethoxyphosphinyl)propoxy]borane, -, 1.4926.

L4 ANSWER 257 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1962:53482 CAPLUS

DN 56:53482

OREF 56:10175b-g

TI Organoboron compounds. Aromatic compounds

AU Washburn, Robert M.; Billig, Franklin; Bloom, Murray; Albright, Charles F.; Levens, Ernest

CS Am. Potash and Chem. Corp., Whittier, CA

SO Advances in Chem. Ser. (1961), 32, 208-20

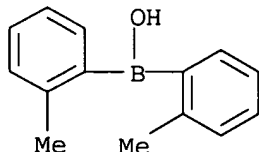
DT Journal

LA Unavailable

IT **73774-44-4**, Borinic acid, di-o-tolyl- **73774-45-5**, Borinic acid, bis(p-methoxyphenyl)- (prepn. of)

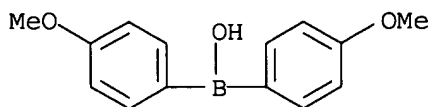
RN 73774-44-4 CAPLUS

CN Borinic acid, bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



RN 73774-45-5 CAPLUS

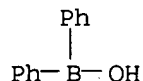
CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



AB The mechanism of the reaction between Grignard reagents and borate esters to form substituted boranes was investigated and found to go through an intermediate, $\text{RB(OR)}_3\text{MgBr}$ (I). Substituents which increased the stability of I increased the yield of boronic acids with respect to borinic acids. Thus, using an incremental method of addn., the yields of boronic and borinic acid from methyl borate with p-chloro-, p-methoxy-, o-methyl- and phenylmagnesium bromide were: 82.0, -; 50.5, 14.1; 33.0, 18.1; and 75.5, -. The corresponding yields when PhMgBr was allowed to react with Et, Pr, iso-Pr, and Bu borate were: 33.0, 21.1; 14.1, 76.3; 16.1, 69.7; and 15.5, 77.6. When tetrahydrofuran was used as a solvent for the reaction of PhMgBr with $(\text{MeO})_3\text{B}$, the yield rose to 82.6%, while when pyridine was the solvent, the yield only rose to 78%. To check on the conditions under which B-C bonds were hydrolyzed the following expts. were performed. Benzeneboronic anhydride (0.58 mole) was heated with .beta.-ethoxyethanol (3.73 moles) for two hrs. while the water was removed as diisobutylene azeotrope. On distn. 83.3% tris(.beta.-ethoxyethyl) borate and 16.7% bis(.beta.-ethoxyethyl) benzeneboronate were obtained. The mixt. b. 93.degree./0.3 mm. and 0.434 mole C_6H_6 was isolated by vapor phase chromatography. Essentially similar results were obtained with starting ratios of 2:1 and 1:2. PhB(OH)_2 , (7.0 g.) was heated with BuOH (18.5 g.) 32 hrs. Vapor phase chromatography indicated 0.56% of the B-C bonds were cleaved; when tetrahydropyran was present 0.75% of the B-C bonds were broken; when H_2O was removed as BuOH- H_2O azeotrope 86% PhB(OBu)_2 , b. 104-6.degree./1.0 to 1.5 mm., was obtained; however, when the H_2O was removed as a diisobutylene- H_2O azeotrope, which took 156 hrs., 95% $(\text{BuO})_3\text{B}$ was obtained. PhB(OH)_2 (10.0 g.) and PhOH (22.0 g.) were heated together 2.5 hrs. while the H_2O was removed as a diisobutylene- H_2O azeotrope. Analysis showed 7% of the B-C bonds had been broken. When xylene was used as the azeotroping agent a mixt. of PhB(OPh)_2 (77.1%) and $(\text{PhO})_3\text{B}$ (23.9%), b. 155-9.degree./2 mm., m. 113-15.degree., was obtained. Very pure PhB(OH)_2 was heated in an inert atm. with MeOH 6 days at which time 0.069% of the B-C bonds had been cleaved; similarly with acetone 0.13% of the B-C bonds were cleaved. Very pure PhB(OH)_2 was dissolved in basic soln. for 8 hrs.; no C_6H_6 could be found. After slow acidification no trace of C_6H_6 could be found and all the starting material was recovered. However, in the presence of MeOH less than 1% of the B-C bonds were cleaved in acid soln., while in the presence of pyridine almost 20% of the B-C bonds were broken.

L4 ANSWER 258 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1961:99427 CAPLUS
 DN 55:99427
 OREF 55:18712f-i,18713a-i,18714a-f
 TI 5-Nitro-2-(furyl-substituted) 1,3,4-oxadiazoles, 1,3,4-thiadiazoles, and 1,3,5-triazines
 AU Sherman, William R.
 CS Abbott Labs., N. Chicago
 SO Journal of Organic Chemistry (1961), 26, 88-95
 CODEN: JOCEAH; ISSN: 0022-3263
 DT Journal
 LA Unavailable

IT 2622-89-1, Borinic acid, diphenyl-
 (aminoalkyl esters (cyclic form), and their electric moments)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

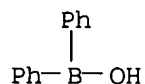


GI For diagram(s), see printed CA Issue.
 AB New types of antibacterial nitrofurans, 1,3,4-oxadiazoles, and 1,3,4-thiadiazoles contg. the system C:N.N.C: in a heterocycle, and 1,3,5-triazines lacking such a system were prepd. CNBr (48.0 g.) and 68.4 g. 5-nitro-2-furoylhydrazine (I) refluxed 1 hr. in 2 l. MeOH, the cooled mixt. filtered from 20.4 g. product, the mother liquor concd., the brown oil poured into 500 ml. H₂O to give 30 g. product, the 2 crops combined, and crystd. from HCONMe₂-alc. gave 64% 2-amino-5-(5-nitro-2-furyl)-1,3,4-oxadiazole (II), m. 258-60.degree. (decompn.). Pb₃O₄ (34.2 g.) and 4.60 g. 1-(5-nitro-2-furoyl)thiosemicarbazide refluxed 24 hrs. in 250 ml. alc., filtered, and the residue extd. with hot alc. yielded 16% II. I (50.15 g.) in 500 ml. 10:1 H₂O-HCl stirred 1 hr. (ice bath) with introduction of COCl₂ below the surface and the H₂O-washed product (92%, m. 200-2.degree.) crystd. from Me₂CO-H₂O gave 5-(5-nitro-2-furyl)-1,3,4-oxadiazol-2-one (III), m. 201-2.degree. (decompn.), λ . 5.64 μ . (Nujol), supporting the oxo structure; N-Ac deriv. m. 144-4.5.degree., λ . 5.50, 5.70 μ . (CHCl₃). I (17.11 g.) in 375 ml. dioxane satd. with CSCl₂ at room temp., the mixt. treated with C, and the filtered soln. dild. with 700 ml. C₆H₁₄ yielded 65% 5-(5-nitro-2-furyl)-1,3,4-oxadiazole-2-thione (IV), m. 157.5-8.degree. (decompn.). III (9.85 g.) and 3.75 ml. HCHO boiled in 40 ml. H₂O and kept 30 min. on a steam bath gave 4.7% 3-hydroxymethyl-5-(5-nitro-2-furyl)-1,3,4-oxadiazol-2-one, m. 110-11.degree. (alc.-C₆H₁₂). Several 3-aminomethyl oxadiazolones (V) were readily obtained by the Mannich reaction. III (19.7 g.) in 200 ml. ice-cold abs. alc. stirred 10 min. with addn. of 7.5 ml. HCHO and 30 ml. alc. contg. 4.5 g. HNMe₂, the ppt. crystd. from alc., and the product (14 g.; m. 117-47.degree.) extd. with 800 ml. hot C₆H₆ yielded starting material, unidentified product, and 28% V (R = Me) (VI), m. 118-19.degree.. III (19.71 g.) in 200 ml. hot abs. alc. contg. 10 ml. HCONMe₂ cooled to 40.degree., treated with 7.5 ml. HCHO and 7.31 g. HNEt₂, and the mixt. cooled (ice bath) yielded 22% V (R = Et) (VII), m. 99-9.5.degree.. The procedure used for VI converted 8.71 g. morpholine into 27.4 g. V (NR₂ = morpholino), m. 190-1.degree. (HCONMe₂-alc.). The general procedure for VII gave V (NR₂ = piperidino, pyrrolidino, and hexamethylenimino), m. 133.5-4.degree. (alc.), 138-9.degree. (HCONMe₂-alc.), and 134-5.degree., in 78.2, 85, and 92% yields, resp. With 4.31 g. piperazine, the Mannich procedure converted III immediately to 23.9 g. orange 1,4-bis[5-(5-nitro-2-furyl)-2-oxo-1,3,4-oxadiazol-3-ylmethyl]piperazine, m. 200.degree. (decompn.). The Mannich base (0.003 mole) in 10 ml. H₂O stirred with 0.003 mole concd. HCl gave 94% III. IV (6.39 g.) in 30 ml. alc. treated with 6 ml. MeI and 75 ml. alc. contg. 1.68 g. KOH yielded 85% material, m. 164.5-5.degree., crystd. from HCONMe₂-H₂O to give 2-methylthio-5-(5-nitro-2-furyl)-1,3,4-oxadiazole (VIII), m. 165.5-6.degree., with 93% recovery. Treatment of IV with HgO in either refluxing H₂O or dioxane gave only the Hg bis salt, Cl₂H₄HgN₆O₈S₂, m. 262.degree. (decompn.) (HCONMe₂-H₂O), and not the expected III. VIII (0.90 g.) heated 7 hrs. on a steam bath in 20 ml. concd. HCl with evolution of MeHS and the soln. cooled gave 74% 5-nitro-2

furoic acid, m. 182-3.degree. (decompn.). The most active member in this series was III. III and the acid-labile Mannich derivs. were effective against gram-pos. and gram-neg. infections in animals by intramuscular and oral routes. IV had no in vitro or in vivo activity. PhNHNH₂ (4.32 g.) in 25 ml. ice-cold dry C₆H₆ treated dropwise with 3.51 g. 5-nitro-2-furoyl chloride (IX) in 25 ml. dry C₆H₆, the mixt. refluxed several min., the cooled mixt. filtered from 37.8% 1-(5-nitro-2-furoyl)-1-phenylhydrazine (X), m. 167-7.5.degree. (abs. alc.), the filtrate evapd., the residue extd. with warm H₂O, and crystd. from PhMe yielded 17.4% 1-(5-nitro-2-furoyl)-2-phenylhydrazine (XI), m. 127.5-8.degree.. IX (3.51 g.) in 50 ml. dry Et₂O added slowly with stirring to 4.32 g. PhNHNH₂ in 50 ml. dry Et₂O, the residue on filtration washed with H₂O, taken up in hot alc., the soln. cooled, filtered from 0.80 g. X, the mother liquor and the Et₂O filtrate combined, and the solvents evapd. yielded 58.2% XI, m. 124.5-5.5.degree.. XI (1.80 g.) in 50 ml. PhMe heated on a steam bath 1 hr. with passage of COCl₂, the solvent evapd., and the residue slurried in 25 ml. boiling alc. gave 84% 5-(5-nitro-2-furyl)-3-phenyl-1,3,4-oxadiazol-2-one (XII), m. 186.5-7.5.degree. (PhMe). X (0.5 g.) heated 40 min. on a steam bath with 5 ml. freshly distd. BzH gave 78% benzylidene deriv., m. 207-8.degree. (PhMe). XII was physiol. inactive. IX (5.27 g.) in 30 ml. pure dry dioxane added slowly with stirring to 2.73 g. H₂NCSNHNH₂ and 7 g. NaHCO₃ in 50 ml. dry dioxane, the mixt. stirred 2 hrs. at 20.degree. and 10 min. at 100.degree., the cooled filtered soln. concd., and dild. with alc. yielded 46% 5,2-O₂NC₄H₂OCONHNHCSNHR (XIII, R = H) (XIV), m. 192.degree. (decompn.) (alc.), also prepd. in 50% yield by heating 34.22 g. 5-nitro-2-furoylhydrazine (XV), 25 g. KCNS, and 20 ml. concd. HCl 4 hrs. in 300 ml. H₂O on a steam bath, cooling overnight, filtering, and slurrying the ppt. in a small vol. of boiling alc. several min. XV (17.11 g.) and 8.04 g. MeNCS refluxed 2 hrs. in 250 ml. alc. and the cooled mixt. filtered gave XIII (R = Me). EtOH m. 166.5-7.degree. (alc.), converted by heating in vacuo at 100.degree. to XIII (R = Me) (XVI), m. 190.degree. (decompn.). Similarly were prepd. the corresponding XIII (R = Et, Ph) (XVII, XVIII), m. 193.degree. (alc.), and 175.degree. (decompn.) (Me₂CO-H₂O), in 88 and 81% yields, resp. XIV (11.51 g.) added portionwise with stirring to concd. H₂SO₄ at 0.degree., the mixt. stirred 1 hr. at 0.degree. and 1 hr. at 0-20.degree., the filtered soln. poured over cracked ice, kept 16 hrs. at 0.degree., filtered, the acid soln. neutralized, the products combined, and recrystd. from HCONMe₂-H₂O gave 76% 2-amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole (XIX, R = H) (XX), m. 280.degree. (decompn.). XX (7.0 g.) and 8 ml. Ac₂O kept 2 hrs. at 80-90.degree. in 200 ml. C₅H₅N, cooled, and the product crystd. from C₅H₅N yielded 95% XIX (R = Ac), m. 308.degree. (decompn.). Similar cyclization of XVI, XVII, and XVIII yielded the corresponding XIX (R = Me, Et, and Ph), m. 214.5-15.5.degree. (HCONMe₂-H₂O), 216-16.5.degree. (HCONMe₂-H₂O), and 267-7.5.degree. (HCONMe₂-H₂O), in 52, 70 and 73% yields, resp. XIV was the most active thiadiazole antibacterial, the substituted amino derivs. showing decreasing activity in the order R = Me, Et, Ph. MeOCH₂CH₂OH (50 ml.) contg. 1.15 g. Na treated with 8.98 g. H₂NC(:NH)NHC(:NH)NHR (XXI, R = iso-Pr), the filtered soln. kept 3 days at 20.degree. with 8.55 g. Me 5-nitro-2-furoate (XXI, R = iso-Pr), the filtered soln. kept 3 days at 20.degree. with 8.55 g. Me 5-nitro-2-furoate (XXII), filtered from 2.73 g. alc.-washed product, m. 192.5-4.degree., the filtrate kept 2 weeks before evapn., and the residue extd. with hot alc. gave 0.93 g. product, crystd. (total yield 28%) from alc. to give the 1,3,5-triazine (XXIII) (R = Me₂CH, R' = H), m. 197-7.5.degree.. The corresponding XXIII (R' = H, R = Ph, o-MeC₆H₄, p-ClC₆H₄, p-O₂NC₆H₄), m. 259.5-60.degree. (BuOH), 257.degree. (decompn.) (BuOH), 249-9.5.degree. (HCONMe₂-H₂O), and 342.degree. (decompn.) (HCONMe₂), were similarly

obtained in 15.4, 9.6, 8.5, and 5% yield, resp. In an attempt to prep. XXIII (R' = H, R = o-MeC₆H₄) with IX and XXI (R = o-MeC₆H₄), no cyclized product was obtained. The reduced rate of cyclization may have resulted from a combination of steric and electric effects and long standing might destroy large amts. of the base-labile nitrofuranyl intermediates or products. XXIII (R = R' = H) (XXIV) was formed in 80% yield after reaction of XXII with XXI (R = H) in 16 hrs. at 20.degree.. XXIV had a high degree of antibacterial activity in animals by the intramuscular route. XXIV refluxed with Ac₂O gave the di-Ac deriv., XXIII (R = R' = Ac), m. 274.5-5.degree. (decompn.) (HCONMe₂), converted by refluxing 16 hrs. in 1:1 HCONMe₂-H₂O to the mono-Ac deriv., XXIII (R = Ac, R' = H), m. 317.degree. (decompn.) (HCONMe₂). XXII (8.55 g.) and 11.10 g. XXI (R = p-O₂NC₆H₄) kept 14 days at 20.degree. in 200 ml. MeOCH₂CH₂OH yielded 56% yellow solid, m. 252.degree. (decompn.), crystd. from AcOH-alc. to give 1-(5-nitro-2-furyl)-5-(p-nitrophenyl)biguanide-H₂O, m. 259.degree., converted by introduction (6.75 g.) into a few ml. of boiling HCONMe₂ and immediate cooling to yield 33% XXIII (R' = H, R = p-O₂NC₆H₄) (XXV), m. 338.degree. (decompn.), and 4.35 g. starting material, m. 245.degree. (decompn.). XXII (8.6 g.) and XXI (R = p-O₂NC₆H₄) heated 8.5 hrs. on a steam bath in 50 ml. HCONMe₂ and the soln. cooled yielded 12% XXV. The immediate formation of XXV without isolation of the biguanide intermediate was due to the greater soly. of the intermediate in HCONMe₂, facilitating cyclization.

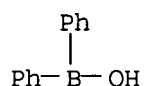
L4 ANSWER 259 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1961:76160 CAPLUS
 DN 55:76160
 OREF 55:14457b-d
 TI Coordination compounds from diphenylboric acid and substances with ring nitrogen as the electron donors
 AU Neu, R.
 CS Dr. Willmar Schwabe G. m. b. H., Karlsruhe, Germany
 SO Arch. Pharm. (1961), 294, 173-8
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (prepn. of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Pyridine-2-carbinol (371 mg.) in 10 ml. C₆H₆ was mixed with 580 mg. Ph₂BOH in 80 ml. petr. ether to give 84.3% of the O,O-diphenylboryl ester, m. 147.degree. (heptane). Similarly were prepd. the corresponding O,O-diphenyl or O,O'-bis(diphenylboryl) esters from the following aromatic amines (amine and m.p. and % yield of boron compd. given): 6-methylpyridine-2-carbinol, 184-6.degree., 71.4; quinoline-2-carbinol, 185-6.degree., 68.4; bis(2-pyridyl)-glycol, 279-81.degree., 100; 2,2'-pyridoin (I), -, 94.8; 6,6'-di-Me deriv. of I, 281-3.degree., 87.3; pyridine-2-ethanol, 166-9.degree., 85.4.

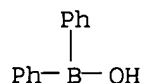
L4 ANSWER 260 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1961:64849 CAPLUS

DN 55:64849
OREF 55:12328a-b
TI Action of salts of trivalent metals and non-metals on sodium tetraphenylboron
AU Neu, R.
CS Chem. Lab. der Fa. Dr. Willmar Schwabe G. m. b. H., Karlsruhe-Durlach, Germany
SO Arch. Pharm. (1961), 294, 7-10
DT Journal
LA Unavailable
IT **2622-89-1**, Borinic acid, diphenyl-
(formation in NaBPh₄ reaction with salts)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



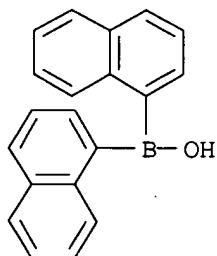
AB NaBPh₄ (0.01 mole) in 100 ml. H₂O was treated with 0.0003 mole salt in 10 ml. H₂O, the soln. steam-distd., and the distillate contg. Ph₂BOH (I) treated with 3 g. 8-hydroxyquinoline in CHCl₃, MeOH, or in H₂O contg. H₂NCH₂CH₂OH (salt and % yield I given): AlCl₃.6H₂O, 71; TiCl₃, 81; FeCl₃.6H₂O, 84; CrCl₆, 30; Bi(NO₃)₃.5H₂O, 36; SbCl₃, 72.

L4 ANSWER 261 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1961:50776 CAPLUS
DN 55:50776
OREF 55:9789a-b
TI Colorimetric determination of tetracycline with diphenylborinic acid
AU Uno, Toyozo; Morishita, Nobumichi
CS Univ. Kyoto
SO Yakugaku Zasshi (1960), 80, 1679-81
CODEN: YKKZAJ; ISSN: 0031-6903
DT Journal
LA Unavailable
IT **2622-89-1**, Borinic acid, diphenyl-
(in detn. of chlortetracycline, oxytetracycline and tetracycline)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB To 5 ml. aq. soln. contg. 10-30 .gamma. tetracycline (I), 5 ml. 1% Ph₂BOH in EtOH is added and the soln. dild. (to compensate for vol. contraction) to 10 ml. with 99% EtOH. Optical d. at 415 m.mu. is measured after 1 hr. The blank test is carried out with 5 ml. H₂O, 5 ml. of the reagent and the soln. is made up to 10 ml. with 99% EtOH. Chlor- and oxytetracyclines can be detd. in a similar manner, using the absorption max. at 417 and 407 m.mu., resp. The values obtained by this method and biol. assay on aq. solns. of I allowed to stand for a long period of time were in good agreement.

L4 ANSWER 262 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1961:48583 CAPLUS
DN 55:48583
OREF 55:9353c-f
TI Organoboron compounds. LVIII. Action of amines and ammonia on diarylboron chlorides
AU Mikhailov, B. M.; Fedotov, N. S.
CS N. D. Zelinskii Inst. Org. Chem., Moscow
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1960) 1590-4
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Unavailable
IT 62981-91-3, Borinic acid, di-1-naphthyl-
(prepn. of)
RN 62981-91-3 CAPLUS
CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)

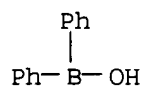


AB cf. CA 55, 360c. Spontaneous reaction of Ph_2BCl with 2 moles PhNH_2 in Et_2O gave 76.2% Ph_2BNHPh b.p. 134-5.degree., m. 57-9.degree. (sealed tube), hydrolyzed by moist air. Treatment of Ph_2BCl in isopentane with dry NH_3 at 0.degree. gave 87.2% $\text{Ph}_2\text{BCl} \cdot 2\text{NH}_3$ (softened at 175-80.degree. but did not m. even at 250.degree.). Ph_2BCl and Et_3N in heptane gave $\text{Ph}_2\text{BCl} \cdot \text{Et}_3\text{N}$, m. 125-33.degree.. Passage of NH_3 into refluxing soln. of Ph_2BCl in C_6H_6 gave 71.7% $\text{Ph}_3\text{B} \cdot \text{NH}_3$, m. 216-17.degree.. Since $\text{Ph}_2\text{BCl} \cdot 2\text{NH}_3$ treated with H_2O was converted into 69.3% $[\text{Ph}_2\text{B}(\text{OH})_2]\text{NH}_4$, decomp. at 106-8.degree., it appeared that the original complex was indeed $[\text{Ph}_2\text{B}(\text{NH}_2)\text{Cl}]\text{NH}_4$. Reaction of $(1\text{-C}_{10}\text{H}_7)_2\text{BCl}$ with MeNH_2 in C_6H_6 at room temp. gave 81% $(1\text{-C}_{10}\text{H}_7)_2\text{BNHMe}$, m. 104-6.degree., slowly hydrolyzed by moist air; heated with H_2O , this gave C_{10}H_8 and .alpha.-naphthylboronic acid, m. 200-3.degree.. Similarly was prepd. 81.4% $(1\text{-C}_{10}\text{H}_7)_2\text{BNHPh}$, m. 125-7.degree., rapidly hydrolyzed by moist air to yield di-.alpha.-naphthylboronic acid, m. 111-14.degree.. Similarly, iso-BuNH₂ gave 80.6% viscous $(1\text{-C}_{10}\text{H}_7)_2\text{BNHCH}_2\text{CHMe}_2$, b.p. 240-5.degree., hydrolyzed only by hot H_2O to .alpha.-naphthylboronic acid, C_{10}H_8 , and iso-BuNH₂. Use of NH_3 in the above reaction gave 87% $(1\text{-C}_{10}\text{H}_7)_2\text{BNH}_2$, m. 113 14.degree., oxidized by air and hydrolyzed by hot H_2O to C_{10}H_8 and .alpha.-naphthylboronic acid. Et_2NH similarly gave 77.6% $(1\text{-C}_{10}\text{H}_7)_2\text{BNEt}_2$, m. 178-9.degree., resistant to air oxidn. and hydrolysis. Heating $(1\text{-C}_{10}\text{H}_7)_2\text{BOH}$ with H_2O 1 hr. gave C_{10}H_8 and $1\text{-C}_{10}\text{H}_7\text{B}(\text{OH})_2$, m. 208-9.degree..

L4 ANSWER 263 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1961:48546 CAPLUS
DN 55:48546
OREF 55:9345e-g

TI Diarylboric acids and their anhydrides
IN Neu, Richard; Buechl, Hermann
PA Heyl & Co. Chemisch-Pharmazeutische Fabrik
DT Patent
LA Unavailable
FAN.CNT 1

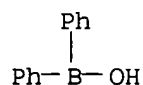
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 1040550		19581009	DE	
IT	2622-89-1, Borinic acid, diphenyl- (prepn. of)				
RN	2622-89-1	CAPLUS			
CN	Borinic acid, diphenyl-	(6CI, 7CI, 8CI, 9CI)		(CA INDEX NAME)	



AB Diarylboric acids are prepd. by interaction of B trihalides, such as BF₃, BCl₃, BF₃.Et₂O, boric acid esters, preferably alkyl esters, and monoarylboric acid esters, such as phenylboric acid alkyl esters, with arylmagnesium halides in Et₂O, acid hydrolysis of the arylboron compds. formed under mild conditions, e.g. in the cold, and isolation of the products. Thus, a Grignard soln. (10 g. Mg and 65 g. PhBr) is dropped into 15 g. BF₃.Et₂O in 80 cc. Et₂O with stirring and refluxing, the mixt. poured into 16 g. NaOH, 100 cc. H₂O, and 200 g. crushed ice, 2N HCl added, the layers sepd., the aq. layer extd. several times with Et₂O, the Et₂O exts. evapd., the residue steam distd., the distillate extd. with Et₂O, the ether layer dried, and evapd. to give 6 g. oily diphenylboric acid, which solidifies gradually and yields tetraphenyldiboron oxide after recrystn. from petr. ether, m. 118-20.degree.. In the same manner is prepd. tetra-p-tolyldiboron oxide, m. 105-6.degree..

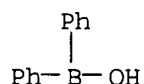
L4 ANSWER 264 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1961:40246 CAPLUS
DN 55:40246
OREF 55:7826e-g
TI Preventing icing in jet fuels
IN Steinberg, Howard; Hunter, Don L.; Goda, Ernest H.
PA United States Borax & Chemical Corp.
DT Patent
LA Unavailable
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2960819		19601122	US	
IT	2622-89-1, Borinic acid, diphenyl- (and derivs., esters, icing prevention in jet fuel by)				
RN	2622-89-1	CAPLUS			
CN	Borinic acid, diphenyl-	(6CI, 7CI, 8CI, 9CI)		(CA INDEX NAME)	



AB To prevent icing in kerosine jet-engine fuel (JP-4) down to the freezing temp. of the fuel itself, 0.01-1.0% by wt. of a H₂O-unstable ester of boric acid, a benzeneboronic acid, an alkaneboronic acid, a diphenylborinic acid, or a dialkylborinic acid is added. The esters are derived from alcs. having 1-12 C atoms or from H₂O-unstable biborates or boric anhydrides of 1,2- and 1,3-glycols. The following additives are mentioned in the claims: tris(hexylene glycol) biborate, bis(hexylene glycol) boric anhydride, tris(2-ethylhexyl) borate, Et₃BO₃, or diisopropyl benzeneboronate. For example, 0.1% Et₃BO₃ prevents ice formation down to -60.degree..

L4 ANSWER 265 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1961:35817 CAPLUS
DN 55:35817
OREF 55:6970b-d
TI Physical properties of organoboron compounds
AU Christopher, Phoebus M.
CS Newark Coll. of Eng., Newark, NJ
SO Journal of Chemical and Engineering Data (1960), 5, 568-70
CODEN: JCEAAX; ISSN: 0021-9568
DT Journal
LA Unavailable
IT 2622-89-1, Borinic acid, diphenyl-
(alkyl esters, phys. property equations for)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Equations are given for the molar refractions (R) and vols. of the following organoboron compds. as a function of the number of C atoms in the alkyl substituents: B(OR)₃, ClB(OR)₂, ROBCl₂, BR₃, PhB(OR)₂, MeC₆H₄B(OR)₂, Ph₂BOR, B[O(CH₂)_nCl]₃, ClB[O(CH₂)_nCl]₂, Cl(CH₂)_nOBCl₂, PhB(OR)Cl, C₆H₄O₂BOR, (ROBO)₃, (RBO)₃, [B(NHR)NR]₃, B(NHR)₃. The equations are Robs. = an + b and V_{tm} = cn + d, where n is the number of carbons per R group (1 to 6), and a, b, c, d are consts. The molar refraction and vol., normal b.p., enthalpy of vaporization, entropy of boiling, internal pressure, crit. pressure, vol. and temp., crit. ratio (T_c/T_b), van der Waals correction factors, and mol. radius were calcd. for Pr₃B, Bu₃B, and 14 B(OR)₃ compds., where R = Et, Pr, Bu, iso-Bu, sec-Bu, tert-Bu, n-amyl, isoamyl, iso-PrMeCH, PrMeCH, n-octyl, CH₃(CH₂)₅Me₂CH, CH₂:CHCH₂, Cl(CH₂)₂, and (ClCH₂)₂CH.

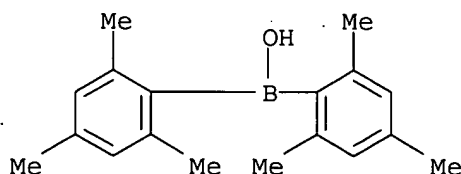
L4 ANSWER 266 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1961:33054 CAPLUS
DN 55:33054
OREF 55:6472g-i, 6473a-f
TI Arylboronic acids. V. Methyl-substituted boronic acids, borinic acids, and triarylborons
AU Hawkins, Richard T.; Lennarz, William J.; Snyder, H. R.
CS Univ. of Illinois, Urbana
SO Journal of the American Chemical Society (1960), 82, 3053-9
CODEN: JACSAT; ISSN: 0002-7863
DT Journal

LA Unavailable

IT 20631-84-9, Borinic acid, dimesityl-
(prepn. of)

RN 20631-84-9 CAPLUS

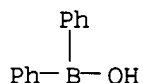
CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



AB cf. CA 53, 2131c. To 10 g. Mg turnings heated to 90.degree. was added slowly, with stirring under N, a soln. of 59.67 g. mesityl bromide in 60 ml. anhyd. tetrahydrofuran. Reaction started within 2 min.; the rate of addn. of the halide was adjusted to maintain the temp. at 90.degree.. The reaction temp. was kept at 95.degree. for 2 hrs. The cooled mixt. was dild. to 120 ml. with tetrahydrofuran (96% yield). A soln. of 0.275 mole 2,4,6-Me₃C₆H₂MgBr and a soln. of 34.0 ml. (MeO)₃B were added simultaneously to 200 ml. of vigorously stirred dry ether at -60 to -70.degree.. After a half hr. at -70.degree., the mixt. was allowed to warm to 0.degree., stirred 1 hr., and hydrolyzed by the addn. of 100 ml. H₂O (overnight). The org. layer was sepd. from the aq. layer and the latter extd. three times with Et₂O. The ether phase was washed twice with H₂O, thrice with dil. HCl, and twice more with H₂O. The ether was removed by dropping the soln. into a warmed flask with stirrer. As the head temp. approached 42.degree., 650 ml H₂O was added slowly; 90 ml. H₂O was collected while the temp. rose to 103.degree.. By cooling, filtering, concg., and filtering again, 35.5 g. (72%) mesityleneboronic acid (I) was obtained. Upon heating, loss of H₂O was observed as low as 80.degree.. Pure I was dried in a vacuum desiccator for several days, recrystd. from petr. ether, and sublimed at 170.degree./1-2 mm. to give a dimer, m. 220-2.degree.. Dimesityleneborinic acid, m. 142.degree., was prepd. by hydrolysis of (2,4,6-Me₃C₆H₂)₂BF (94.5% yield). Trimesitylboron (II) was prepd. in the usual manner. The crude product, which sepd. upon addn. of 95% EtOH, was recrystd. twice from EtOAc and then sublimed at 140.degree. and 2 mm., m. 195-7.degree.. Upon addn. of EtOH, a small crop of crystals was obtained, which were recrystd. (petr. ether-Me₂CO, and then petr. ether). Sublimation at 230.degree. and 0.2 mm. yielded [(2,4,6-Me₃C₆H₂)₂B]O. The material was polymorphic (the more stable modification showed the lower m.p.), m. 267-8.degree. and 289-90.degree.. To a mixt. of 7.0 ml. white fuming HNO₃ and 4.0 ml. concd. H₂SO₄ was added (10 min.) 500 mg. II. The thick brown slurry was stirred 10 min. at -70.degree., allowed to warm to -40.degree., and dild. with 15 ml. cold H₂O. Recrystn. from EtOAc and drying 6 hrs. at 165.degree. and 0.8 mm. gave 450 mg. (51.3%) tris(3,5-dinitro-2,4,6-trimethylphenyl)boron (III). III did not melt up to 350.degree., but started to decomp. at 290.degree.. A mixt. of 3.28 g. I and 2.16 g. o-(H₂N)₂C₆H₄ in 25 ml. MePh was heated until all the H₂O was removed. The product was concd. in vacuo, dild. with 20 ml. petr. ether, and filtered. Unreacted o-(H₂N)₂C₆H₄ was sublimed (5 hrs.) at 100.degree. and 0.5 mm. The residue was dissolved in 80 ml. warm C₆H₆, filtered, concd., and cooled. 2-Mesityl-1,3-dihydro-2,1,3-benzoboradiazole, m. 141.degree., (2.18 g., 46.4%) was obtained. 2,6-Dimethylbenzeneboronic acid (IV), m. 125-30.degree., was prepd. in essentially the same manner as I. 2,6-Dimethylboronic anhydride (V), m.

144-7.degree., was prepared by the two-fold sublimation of IV at 125.degree. (0.05 mm.). V (300 mg.) was treated with a soln. of 56.8 g. pyridine in 5.0 ml. abs. Et2O. The anhydride appeared to dissolve and new crystals formed. The crystals were washed with ether and with petr. ether to give 271.7 mg. (76%) pyridine-V complex, m. 170-5.degree.. A soln. of 4.00 g. V in 40 ml. CCl4 was treated with 1.78 g. recrystd. N-bromosuccinimide (VI) and 8.3 mg. Bz2O2. The mixt. was irradiated (200 watt lamp) and refluxed. After 15 min., 3.56 g. VI and 16.6 mg. Bz2O2 were added and irradiation and refluxing were continued 1.5 hrs. Succinimide (2.87 g., 87%) and 6.29 g. (99%) 2-bromomethyl-6-methylbenzeneboronic anhydride (VII) were isolated. VII was added to a stirred mixt. of tetrahydrofuran and a soln. of 1.43 g. NaOH in 25 ml. H2O. The mixt. was stirred overnight, the pH adjusted to 2-3, and the aq. layer extd. (Et2O). The combined Et2O washings and tetrahydrofuran layer were concd. in vacuo. The residue was extd. with 130 ml. boiling 10% EtOH. After two days, crystn. occurred. The product was sublimed 20 hrs. at 45.degree. (0.05 mm.) to yield 330 mg. 6-methylboronophthalide, m. 115-25.degree..

L4 ANSWER 267 OF 309 CAPLUS COPYRIGHT 2003 on STN
 AN 1961:13146 CAPLUS
 DN 55:13146
 OREF 55:2531a-b
 TI Simple method of preparation of dipheny
 AU Neu, Richard
 CS Willmar Schwabe, Karlsruhe-Durlach, Ge
 SO Naturwissenschaften (1960), 47, 304
 CODEN: NATWAY; ISSN: 0028-1042
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (prepn. of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX



AB After a review on the known prepn. methods of Ph2BOH (I), the author proposed a convenient method for obtaining larger quantities. By influence of salts of tervalent metals or metalloids on NaBPh4 in aq. soln. and by steam distn. I was obtained and could be isolated as the anhydride (60% yield) or as the quinoline complex (84% yield).

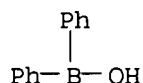
L4 ANSWER 268 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1961:6906 CAPLUS
 DN 55:6906
 OREF 55:1292e-f
 TI The identification of boron in organic bondings
 AU Neu, Richard
 CS Chemisch Forschungslaboratorium der Fa. Dr. Willmar Schwabe G. m. b. H.,
 Karlsruhe-Durlach
 SO Zeitschrift fuer Analytische Chemie (1960), 176, 343-6
 CODEN: ZANCA8; ISSN: 0372-7920
 DT Journal

LA Unavailable

IT 2622-89-1, Borinic acid, diphenyl-
(color reactions with diphenylcarbazone)

RN 2622-89-1 CAPLUS

CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



(esters, color reactions with diphenylcarbazone)

AB Diphenylcarbazone gives a blue-violet color with B bonded to 1 or 2 C atoms, as in the aromatic boric acids. In the presence of the esters of these acids, a red-violet or red color results. N-contg. boric acid esters (such as triethanolamine borate) give no reaction. The Zeiss spectrophotometer shows a max. at 551 m.mu. for phenylboric acid, and at 571 m.mu. for diphenylboric acid. Similar results were obtained with diphenylcarbazide as identifying agent for diphenylboric acid anhydride. 22 references.

L4 ANSWER 269 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1960:121117 CAPLUS

DN 54:121117

OREF 54:23168f-g

TI Nematocides

IN Jacobi, Ernst; Lust, Siegmund; Zima, Otto; van Schoor, Albert

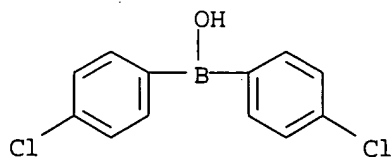
SO From: C.Z. 1959, 8294..

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 1044500		19581120	DE	
IT	89566-59-6, Borinic acid, bis(p-chlorophenyl)- (and derivs., nematocides)				
RN	89566-59-6 CAPLUS				
CN	Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)				

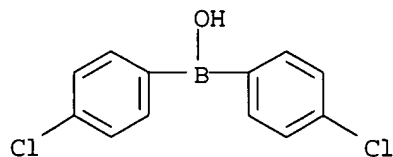


AB Compds. of the general formula (4-ClC₆H₄)₂BOR are used, in which R is H, a univalent org. residue, a univalent metal atom, or an equiv. of a multivalent metal atom. The compds., e.g. bis(p-chlorophenyl)borinic acid, or its salts or esters, are obtained by reaction of Grignard compds. of p-chlorobromobenzene with the desired borate. R and b. p. given: isoBu, b0.2 158-60.degree.; Ph, b0.1 170-2.degree. 2-chloroethyl, b0.02 165-70.degree.; and allyl, b0.001 171-3.degree..

L4 ANSWER 270 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

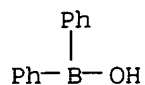
AN 1960:88097 CAPLUS
DN 54:88097
OREF 54:16733e-g
TI Organic boron compounds as herbicides
IN Barnsley, Geoffrey E.; Eaton, John K.; Airs, Raymond S.
PA "Shell" Research Ltd.
DT Patent
LA Unavailable
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 1016978		19571003	DE	
IT	89566-59-6, Borinic acid, bis(p-chlorophenyl)- (herbicide)				
RN	89566-59-6 CAPLUS				
CN	Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)				



AB Certain org. B compds. are selective herbicides and inhibitors for the growth of plants. Suitable compds. are benzeneboronic or diphenylborinic acids which are substituted by halogen, Me, halomethyl or methoxy; diphenylborinic acid; an anhydride, ester, salt or N complex of the mono- or dibasic boric acid; and an anhydride, ester, or N complex of benzenaboronic acid. These B compds. are used with surface-active agents and (or) carriers. Examples are given showing effectiveness of 4-chloro- or 4-bromo- and 4-methoxybenzeneboronic acid and bis(4-chlorophenyl)-borinic acid.

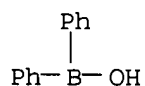
L4 ANSWER 271 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1960:88037 CAPLUS
DN 54:88037
OREF 54:16725e-g
TI Assessment of Na diphenylborinate as a selectiv
AU Barnsley, G. E.; Yates, J.
SO Proc. Brit. Weed Control Conf., 4th, Brighton
245-50
DT Journal
LA Unavailable
IT 95493-42-8, Borinic acid, diphenyl-, sodium sa
(as herbicide)
RN 95493-42-8 CAPLUS
CN Borinic acid, diphenyl-, sodium salt (6CI, 7CI) (CA INDEX NAME)



Na

AB The toxicity was studied of Na diphenylborinate (I) to a range of crops and annual weeds on the basis of seed mortality or growth inhibition. Tolerant crops to spray of I were cereals, grasses, onions, linseed, certain legumes, conifers, wheats, oats, barley, and certain varieties of peas. I induced both acute and chronic phytotoxicity, effects which were thought to be related to the decompn. products of I. The L.D.50 for rats of I was 400 mg./kg., orally. The introduction of Cl atoms into the phenyl nuclei of I resulted in loss of selectivity.

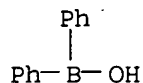
L4 ANSWER 272 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1960:85490 CAPLUS
 DN 54:85490
 OREF 54:16256f-h
 TI The titration of hydrazine sulfate with permanganate
 AU Drotschmann, C.; Wyatt, R.
 SO Chemisch Weekblad (1960), 56, 265-6
 CODEN: CHWEAP; ISSN: 0009-2932
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (detn. of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Dissolve 0.07 g. N₂H₄.H₂SO₄ (I) in 200 ml. water, and add 10 ml. H₂SO₄ (1:4). Heat the soln. to about 80.degree., and titrate with 0.02N KMnO₄ till the pink color changes to purple. The titration may also be done potentiometrically. The specific properties of a MnO₂ sample det. the reaction velocity in the oxidn. of I by MnO₂, an exothermic reaction. The velocity is measured by means of a temp.-time curve.

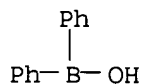
L4 ANSWER 273 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1960:85489 CAPLUS
 DN 54:85489
 OREF 54:16256e-f
 TI Mercurimetric titration of aromatic boron compounds. Reaction of aromatic boron derivatives with mercuric ion
 AU Heyrovsky, Antonin
 CS Karlova Univ., Prague
 SO Zeitschrift fuer Analytische Chemie (1960), 173, 301-9
 CODEN: ZANCA8; ISSN: 0372-7920
 DT Journal
 LA Unavailable

IT 2622-89-1, Borinic acid, diphenyl-
(detn. of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB In neutral or OAc- soln., Hg++ reacts with B(C6H5)4-, (C6H5)3B, or (C6H5)BOH to form C6H5B(OH)2 and (C6H5)2Hg. The latter reacts with more Hg++ to form C6H5Hg+. Potentiometrically, 2 breaks are found; but amperometrically, only the final end point is detected. Hg++ can be titrated with B(C6H5)4- or C6H5B(OH)2.

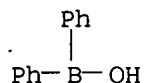
L4 ANSWER 274 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1960:68012 CAPLUS
DN 54:68012
OREF 54:13036h-i
TI Diphenylboric acid from sodium tetraphenylborate
AU Neu, Richard
CS Willmar Schwabe, Karlsruhe, Germany
SO Arch. Pharm. (1959), 292, 437-42
DT Journal
LA Unavailable
IT 2622-89-1, Borinic acid, diphenyl-
(prepn. of)
RN 2622-89-1 CAPLUS
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB cf. CA 49, 9538f. Ph4BNa (I) (300 mg. in 100 ml. H2O) was converted to Ph4BH by passing through a column of acid Lewatit-KSN or Merch I ion exchange resin. Addn. of 8-hydroxyquinoline (300 mg. in 20 ml. MeOH) to the effluent gave 270 mg. Ph2BOH (II), m. 203-6.degree.. The aminoethyl ester of II was prepd. by shaking 3 g. I with the ion exchanger 8 hrs. at room temp., extg. the slurry with EtOH, evapg. the ext. in vacuo and adding 0.5 ml. NH2C2H4OH to yield 1.3 g. ester, m. 184-7.degree..

L4 ANSWER 275 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1960:68011 CAPLUS
DN 54:68011
OREF 54:13036b-h
TI Study of imines. III. Phosphineiminium chlorides and triphenylphosphine imine
AU Appel, Rolf; Hauss, Alfred
CS Univ. Heidelberg, Germany
SO Chemische Berichte (1960), 93, 405-11
CODEN: CHBEAM; ISSN: 0009-2940
DT Journal
LA Unavailable

IT 2622-89-1, Borinic acid, diphenyl-
 (prepn. of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB cf. C.A. 53, 9112d. Tertiary phosphines with H_2NCl (I) yielded the corresponding phosphineiminium chlorides, $[\text{R}_3\text{PNH}_2]\text{Cl}$. $[\text{Ph}_3\text{PNH}_2]\text{Cl}$ (II) treated with NaNH_2 in liquid NH_3 yields $\text{Ph}_3\text{P:NH}$ (III), comparable to the isosteric $\text{Ph}_3\text{P:CH}_2$. The reaction of III with polarizable O derivs. results in an exchange of the O by :NH, yielding the corresponding imine derivs. and Ph_3PO (IV). A stream of gaseous NH_3 -I mixt. (250-300 cc.) is condensed at -78° onto 10 g. Ph_3P in 100 cc. dry Et_2O , the NH_3 evapd., and the Et_2O removed to give 18 g. mixt. of II and NH_4Cl , which extd. with 9:1 EtOAc-MeOH left the insol. NH_4Cl and yielded 10.5 g. III, m. 236° . (pptd. from EtOAc with petr. ether). Et_2O (100 cc.) contg. 136 mg. I treated dropwise with 700 mg. Ph_3P in 200 cc. Et_2O and the ppt. (812 mg.) dissolved in a little MeOH and repptd. with Et_2O yielded 715 mg. II, m. 236° . The aq., neutral soln. of II is stable for some time but deposits IV, needles, m. 156° , when treated with a little alkali or acid. MePh_2P (10 g.) and I gave in the usual manner 11.8 g. $[\text{MePh}_2\text{PNH}_2]\text{Cl}$, m. 167° , which, hydrolyzed in the presence of alkali or acid, gave MePh_2PO . In the same manner was obtained from 10 g. Me_2PhP 12.5 g. $[\text{Me}_2\text{PhPNH}_2]\text{Cl}$, m. 106° , which was hydrolyzed by acid or alkali to Me_2PhPO , m. 100° . Me_3P (4 g.) in 50 cc. Et_2O treated in the usual manner with I yielded 1.6 g. $[\text{Me}_3\text{PNH}_2]\text{Cl}$, m. 122° . Na (722 mg.) and a few crystals of $\text{Fe}(\text{NO}_3)_3$ added under N to about 200 cc. liquid NH_3 , the mixt. stirred several hrs. until the blue color disappeared, treated with 12 g. powd. II, the NH_3 evapd., the residue dissolved in 300 cc. dry C_6H_6 and filtered from excess II and NaCl , and the filtrate concd. and filtered yielded 7.2 g. III, m. 128° . (cyclohexane). The aq. soln. of III reacts strongly basic and becomes turbid after a few sec. with the pptn. of IV. The III was converted with HCl to II and with BzCl to $\text{Ph}_3\text{P:NBz}$, m. 194° . III (3.55 g.) in 100 cc. dry C_6H_6 treated 15 min. with a stream of CO_2 gave 1.55 g. $[\text{Ph}_3\text{PNH}_2]\text{NCO}$, m. 120° , hydrolyzed by acid or alkali to IV and NH_3 . III (2.7 g.) in 100 cc. C_6H_6 treated dropwise with a slight excess of CS_2 gave 1.63 g. $[\text{Ph}_3\text{PNH}_2]\text{SCN}$, m. 173° ; the C_6H_6 filtrate worked up yielded 1.42 g. Ph_3PS , m. 159° . III (5.85 g.) and 3.4 g. Ph_2CO in 200 cc. C_6H_6 refluxed 2 hrs. and distd. yielded 3.24 g. $\text{Ph}_2\text{C:NH}$, b1 about 108° , which dissolved in C_6H_6 and treated with dry HCl gave $[\text{Ph}_2\text{CNH}_2]\text{Cl}$, sublimes at $230-50^\circ$. $\text{Ph}_2\text{C:NH}$ with 2,4-(O_2N) $_2\text{C}_6\text{H}_3\text{NHNH}_2$ gave 2,4-(O_2N) $_2\text{C}_6\text{H}_3\text{NHN:CPh}_2$, m. 202° . III (2.58 g.) in 100 cc. C_6H_6 treated with 0.86 g. p- $\text{MeC}_6\text{H}_4\text{SO}_2\text{Cl}$ in 50 cc. C_6H_6 and filtered, and the filtrate concd. gave 1.9 g. p- $\text{MeC}_6\text{H}_4\text{SO}_2\text{N:PPh}_3$, m. 193° . (C_6H_6).

L4 ANSWER 276 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1960:56332 CAPLUS

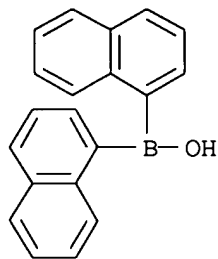
DN 54:56332

OREF 54:10967c-e

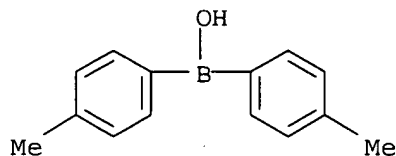
TI Organoboron compounds. XXXVII. Lithium salts of diarylboronic acids and their complex compounds with dioxane

AU Mikhailov, B. M.; Vaver, V. A.

CS Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow
SO Zhurnal Obshchei Khimii (1959), 29, 2248-53
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Unavailable
IT 62981-91-3, Borinic acid, di-1-naphthyl- 66117-64-4,
Borinic acid, di-p-tolyl-
(derivs.)
RN 62981-91-3 CAPLUS
CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



RN 66117-64-4 CAPLUS
CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

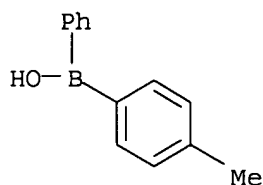


AB Diarylboronic acids react like protonic acids in nonaq. media. All the reactions below were run under N. Addn. of 0.018 mole BuLi soln. to 5 g. (1-C10H7)2BOH in dry C6H6 gave in 10 hrs. a cryst. ppt. of its Li salt. Similarly, (p-MeC6H4)2BOH (I) and p-MeC6H4Li gave the Li salt of the former acid, a cryst. solid. (o-MeC6H4)2BOH with BuLi in hexane-C6H6 gave a ppt. of mixed (o-MeC6H4)2BBuOH.Li and its cleavage products (o-MeC6H4)2BLi and (o-MeC6H4)BBuOLi. This mixt. treated with dioxane in Et2O gave on evapn. of the org. layer and treatment with isopentane in the cold a ppt. of (o-MeC5H4)2BOLi.O(CH2CH2)2O, which also formed from (o-MeC6H4)2BOH and o-MeC6H4Li.O(CH2CH2)2O. The latter procedure also gave from p-MeC6H4Li.O(CH2CH2)2O and (p-MeC6H4)2BOH in Et2O-dioxane a ppt. of relatively insol. (p-MeC6H4)2BOLi.O(CH2CH2)2O, while the filtrate gave (p-MeC6H4)3BOH.Li.O(CH2CH2)2O. (1-C10H7)2BOH in Et2O formed a dioxane adduct, m. 130-1.degree., which with BuLi gave (1-C10H7)2BOLi.O(CH2CH2)2O. Treatment of (1-C10H7)2BOLi with Me2SO4 in C6H6 gave 72.3% (1-C10H7)2BOMe, m. 101-3.degree.. (1-C10H7)2BOLi and MeOH in Et2O gave in 15 min. (1-C10H7)2B(OMe)OH.Li.Et2O.

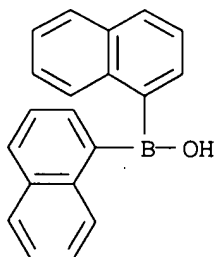
L4 ANSWER 277 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1960:56331 CAPLUS
DN 54:56331
OREF 54:10966i,10967a-c
TI Organoboron compounds. XXXVI. Unsymmetric diarylboronic acids and their

derivatives

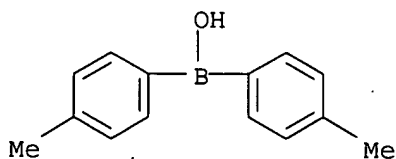
AU Mikhailov, B. M.; Fedotov, N. S.
 CS Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow
 SO Zhurnal Obshchei Khimii (1959), 29, 2244-8
 CODEN: ZOKHA4; ISSN: 0044-460X
 DT Journal
 LA Unavailable
 IT **109845-79-6**, Borinic acid, phenyl-p-tolyl-
 (and derivs.)
 RN 109845-79-6 CAPLUS
 CN Borinic acid, phenyl-p-tolyl- (6CI) (CA INDEX NAME)



IT **62981-91-3**, Borinic acid, di-1-naphthyl- **66117-64-4**,
 Borinic acid, di-p-tolyl-
 (derivs.)
 RN 62981-91-3 CAPLUS
 CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



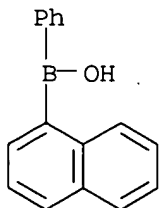
RN 66117-64-4 CAPLUS
 CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



AB cf. C.A. 52, 17148f; 54, 261e, 1266f, 1267a, 8684b. All reactions below were run under N. Reaction of 0.4 mole 1-C10H7MgBr and 88.3 g. PhB(OCH2CHMe2)2 in Et2O at -60.degree. gave after treatment with dil. HCl 80% 1-C10H7BPhOCH2CHMe2 (Ia), b8 207-8.degree., d20 1.099, nD20 1.597; passage of NH3 into an Et2O soln. of this gave the NH3 adduct, m. 90-2.degree. (in sealed tube). Similarly was prepd. 41% (p-MeC6H4)BPhOCH2CHMe2 (I), b1.5 126-8.degree., 0.9720, 1.55.52; NH3

adduct, m. 87-9.degree.. Treatment of I with 100% excess H₂NCH₂CH₂OH gave 87.3% (p-MeC₆H₄)BPhOCH₂CH₂NH₂, m. 163-5.degree.. PhB(OCH₂CHMe₂)₂ and p-BrC₆H₄MgBr gave 33% (p-BrC₆H₄)BPhOCH₂CHMe₂, b₂ 152-3.degree., 1.9199, 1.5773. Treatment of 13 g. Ia with 9.4 g. PCl₅ with heating to 50-60.degree. gave 76.3% 1-C₁₀H₇BPhCl (II), b₄ 180-1.degree., m. 87-90.degree.. Similarly was prepd. 50% p-MeC₆H₄BPhCl, b₈ 142-4.degree., d₂₀ 1.5783. Treating I in Et₂O with N NaOH with ice cooling gave after evapn. and treatment with isopentane at -40.degree. a low yield of 1-C₁₀H₇BPhOH, m. 57-9.degree.. Similarly was prepd. p-MeC₆H₄BPhOH, an oil, which on standing transformed into 88% (PhBO)₃, m. 212-14.degree.. p-MeC₆H₄BPhCl formed an equimolar adduct with dioxane, m. 72-6.degree.. Similar adduct formed with Ph₂BCl, m. 80-5.degree., and with (1-C₁₀H₇)₂BCl, m. 93-6.degree., and with 1-C₁₀H₇BPhCl, m. 90-1.degree.. These are not stable in storage.

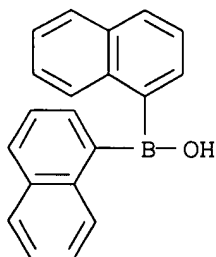
L4 ANSWER 278 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1960:56330 CAPLUS
 DN 54:56330
 OREF 54:10966e-i
 TI Syntheses of .gamma.-lactones and similar compounds in the 1,1-dimethyl-.DELTA.9-octahydronaphthalene series
 AU Mousseron-Ganet, M.; Mousseron, M.
 CS Ecole natl. superieure chim., Montpellier, Fr.
 SO Compt. rend. congr. intern. chim. ind., 31e, Liege 1958 (1959), 2, 625-30; Pub. as Ind. chim. belge, Suppl.
 DT Journal
 LA French
 IT 13331-25-4, Borinic acid, 1-naphthylphenyl- (and derivs.)
 RN 13331-25-4 CAPLUS
 CN Borinic acid, 1-naphthalenylphenyl- (9CI) (CA INDEX NAME)



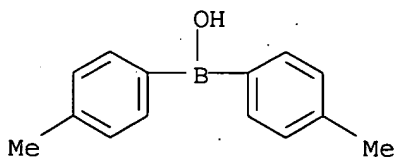
AB Treatment of 20 g. 4-(2-methyl-2-penten-5-yl)cis-4-cyclohexene-1,2-dicarboxylic acid (I) with 60 cc. 98% HCO₂H (II) and 4 cc. H₂SO₄ 1 hr. at 80.degree. followed by neutralization of H₂SO₄, distn. of II, extn. of the residue with Et₂O, and evapn. of the solvent produced the 7,9-lactone of 1,1-dimethyl-6-carboxy-trans-9,10-decahydronaphthalene-7,9-dicarboxylic acid (III), m. 206.degree.. The infrared spectra of III showed the presence of the following bands: .gamma.-lactone, 5.62 .mu.; carboxylic acid, 5.82 .mu.; and the gem-dimethyl group, 7.18 .mu., 7.29 .mu.. Tricyclic oxides having a strong ambergris-like odor were prepd. from the condensation products of myrcene (IV) or 1-methylmyrcene (V) with maleic anhydride (VI) as follows. The reaction of 40 g. VI with 70 g. IV in 200 cc. C₆H₆ at 50.degree. for 10 hrs. produced the anhydride (VII) of I, m. 34-5.degree., which was then hydrolyzed to I, m. 122-3.degree.. Treatment of I with CH₂N₂ at 0.degree. gave the di-Me ester of I b_{0.3} 138-40.degree., which was then reduced with LiAlH₄ to the 1,2-dimethylol analog (VIII) of I, b_{0.4} 160-5.degree.. Distn. of VIII over alumina gave

4-(2-methyl-2-penten-5-yl)-4-cyclohexeno[c]-cis-tetrahydrofuran, b0.5 110-12.degree., which formed 1,1-dimethyl-6,7-tetrahydrofurano-.DELTA.9-octahydronaphthalene (IX), b0.7 100-2.degree., when heated 1 hr. at 80.degree. with II. The reaction of VII with II at 80.degree. produced the anhydride of 1,1-dimethyl-6,7-dicarboxy-.DELTA.9-octahydronaphthalene, m. 98-100.degree., which was hydrolyzed to the corresponding di-acid (X), m. 170.degree.; subsequent treatment of X with II gave the 7-Me deriv. (XI) of IX, b0.5 98-9.degree.. Similar treatment of a series of compds. derived from the reaction of V and VI resulted in the 8-Me deriv. of IX, b0.5 100-5.degree., and the 7,8-di-Me deriv. of IX, b0.1 95-100.degree..

L4 ANSWER 279 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1960:54027 CAPLUS
 DN 54:54027
 OREF 54:10512d-e
 TI Spectroscopic investigations of condensed phosphates and phosphoric acids. VII. Cubic pyrophosphates
 AU Steger, E.; Leukroth, G.
 CS Tech. Hochschule, Dresden, Germany
 SO Z. anorg. u. allgem. Chem. (1960), 303, 169-76
 DT Journal
 LA Unavailable
 IT **62981-91-3**, Borinic acid, di-1-naphthyl- (esters, spectra of)
 RN 62981-91-3 CAPLUS
 CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)

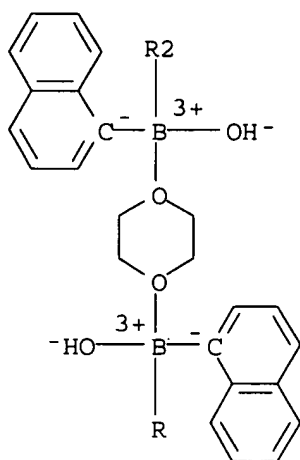


IT **66117-64-4**, Borinic acid, di-p-tolyl- **128711-63-7**, Borinic acid, di-1-naphthyl-, compd. with p-dioxane (spectra of)
 RN 66117-64-4 CAPLUS
 CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

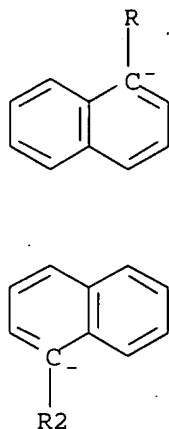


RN 128711-63-7 CAPLUS
 CN Borinic acid, di-1-naphthyl-, compd. with p-dioxane (6CI) (CA INDEX NAME)

PAGE 1-A



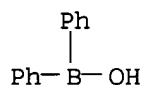
PAGE 2-A



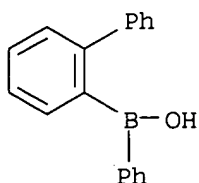
AB cf. C.A. 54, 2938a. The infrared spectra of SiP2O7, TiP2O7, SnP2O7, and ZrP2O7, and the Raman spectrum of ZrP2O7 are reported. From a consideration of the observed frequency shifts and the limited utility of selection rules of the isolated ion these compds. may well be regarded as double oxides.

L4 ANSWER 280 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1960:44693 CAPLUS
 DN 54:44693
 OREF 54:8842f-i,8843a-c
 TI Synthesis and structure of aromatic boron compounds
 AU Davidson, J. M.; French, C. M.
 CS Queen Mary Coll., London
 SO Journal of the Chemical Society, Abstracts (1960) 191-5
 CODEN: JCSAAZ; ISSN: 0590-9791
 DT Journal
 LA Unavailable

IT 2622-89-1, Borinic acid, diphenyl- 131732-34-8, Borinic acid, 2-biphenylylphenyl- (prepn. of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



RN 131732-34-8 CAPLUS
 CN Borinic acid, 2-biphenylylphenyl- (6CI) (CA INDEX NAME)

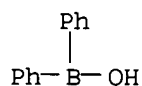


AB 10-Hydroxy-9-oxa-10-boraanthracene (I) was prepd. and its aromatic character demonstrated by ultraviolet spectroscopy. The mechanism of the reaction of Bu metaborate (II) with Grignard and Li reagents was investigated and the conditions under which org. boronous or boronic acid was the predominant product were examd. An attempt to prep. 9-diethylamino-9-borafluorene was also described. PhMgBr (from 15.7 g. PhBr) in 50 ml. Et2O treated dropwise under reflux with 10 g. phenylboronic anhydride (III) in 75 ml. C6H6, refluxed a further 0.5 hr., the mixt. hydrolyzed with 200 ml. 15% HCl, the solvents removed, 20 ml. ligroine added, and the mixt. filtered gave 3.5 g. III, m. 214.degree.. Removal of the solvent from the filtrate gave 11.5 g. diphenylboronous acid (IV), n20D 1.5907. IV with HOCH2CH2NH2 formed 65% 2-aminoethyl diphenylboronite, m. 187.degree.. 2-Biphenylylphenylboronous acid (V) was similarly prepd. from 7.5 g. III and 1 mole 2-biphenylylmagnesium iodide in Et2O, after hydrolysis, ethanolamine added, and crystd. to give 10.2 g. 2-aminoethyl-2-biphenylyl phenylboronite (VI), m. 175.degree. (alc.). VI (3 g.) shaken with 30 ml. Et2O and 30 ml. 10% HCl gave 2.55 g. V, viscous liquid. Mg (0.7 g.) reacted readily with 7.5 g. 2-iododiphenyl ether and 3 g. II in 60 ml. Et2O after addn. of iodine; after 10 min. of spontaneous refluxing and 0.5 hr. of heating the mixt. was hydrolyzed with 100 ml. 15% HCl, the acid products extd. with 5% NaOH, and the basic ext. acidified to give 1.5 g. o-phenoxyphenylboronic acid, m. 114.degree. (C6H6-cyclohexane). 9-Bromophenanthrene (5 g.) and 2.5 g. II gave 2.45 g. 9-phenanthrylboronic acid, m. 324.degree. (H2O). 2,2'-Dilithiodiphenyl ether in 156 ml. Et2O treated during 10 min. with 6.7 g. II in 25 ml. Et2O, the soln. refluxed 2 hrs., and hydrolyzed with 100 ml. 10% HCl gave 5.9 g. 10-hydroxy-9-oxa-10-boraanthracene (VII), m. 285.degree. (C6H6-cyclohexane). The same soln. of 2,2'-dilithiodiphenyl ether (600 ml.) and 200 ml. ether soln. contg. 37 g. BF3-Et2O simultaneously added to 100 ml. Et2O under N during 45 min. and the mixt. refluxed 1 hr. gave 11.1 g. VII. 2-Biphenylylmagnesium iodide (from 10 g. 2-iodobiphenyl) in 50 ml. Et2O treated rapidly with 3.5 g. II in 15 ml. Et2O, and the soln. refluxed 0.5 hr. gave 5 g. 2-biphenylylboronic acid (VIII), m. 121-3.degree. (H2O), resolidified to the anhydride, m. 195.degree.. VIII

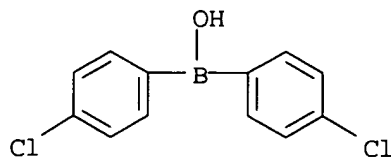
(3.9 g.) esterified with alc. by azeotropic distn. gave 3.4 g. di-Et ester, b₄ 136-8.degree., n_{20D} 1.5444. Di-Bu 2-biphenylboronate (IX) was prepd. by direct esterification of the Grignard reaction mixt. after hydrolysis. 2-Iodobiphenyl (26.5 g.) and 8.8 g. II afforded 13.3 g. IX, b_{0.6} 149-51.degree., n_{20D} 1.5310. IX (7.5 g.) heated 18 hrs. at 140.degree. with 11 g. PCl₅ gave 4.35 g. 2-biphenylboron dichloride, b_{0.25} 95-6.degree., n_{20D} 1.5661. 2,2'-Dilithiobiphenyl (from 4 g. 2,2'-diiodobiphenyl) in 60 ml. Et₂O slowly treated with 0.9 g. II in 15 ml. Et₂O under N, the soln. refluxed 15 min., hydrolyzed with dil. NH₄Cl, and the soln. azeotropically distd. with HOCH₂CH₂NH₂ and PhMe gave 1.3 g. bis(2-aminoethyl)2-biphenyl boronate, m. 134.degree. (C₆H₆). A sample was hydrolyzed with dil. HCl to the acid which was dried to form the anhydride, m. 206.degree. (cyclohexane).

L4 ANSWER 281 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1960:40329 CAPLUS
 DN 54:40329
 OREF 54:7964h-i,7965a
 TI Compositions for controlling plant growth
 IN Barnsley, Geoffrey E.; Eaton, John K.; Airs, Raymond S.
 PA "Shell" Research Ltd.
 DT Patent
 LA Unavailable
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 818925		19590826	GB	
IT	2622-89-1, Borinic acid, diphenyl- 89566-59-6, Borinic acid, bis(p-chlorophenyl)- (plant regulators)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



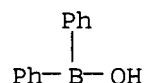
RN 89566-59-6 CAPLUS
 CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)



AB Organoboron acids and their anhydrides, esters, and complexes with nitrogenous bases are effective as pre- or postemergence weed killers. Suitable compds. are halo-, methyl-, halomethyl-, and methoxy-substituted phenylboronic and diphenylborinic acids, and unsubstituted diphenylborinic acid. Cl is the preferred halogen substituent. More than 1 substituent per phenyl group may be used if 1 position ortho to the B atom is unsubstituted. The choice of substituents permits selective toxicity.

Thus, bis(4-chlorophenyl)borinic acid is highly toxic to both mono- and dicotyledons, whereas diphenylborinic acid is toxic to dicotyledons and inert to monocotyledons. The compds. are applied as mixts. with a surface-active agent, an inert solid carrier, or an inert liquid carrier which can be a solvent for the organoboron compd.

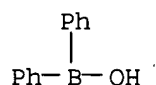
L4 ANSWER 282 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1960:34015 CAPLUS
 DN 54:34015
 OREF 54:6598d-i
 TI Preparation, properties and uses of benzeneboronic acid
 AU Washburn, Robert M.; Levens, Ernest; Albright, Charles F.; Billig, Franklin A.; Cernak, E. S.
 CS Am. Potash & Chem. Corp., Whittier, CA
 SO Advances in Chem. Ser. (1959), 23, 102-28
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (formation in reaction of Me borate with PhMgBr)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The prepn. of PhB(OH)₂ (I) from PhMgBr (II) and (MeO)₃B (III) was investigated as to reaction temp., rate of addn. of II to III, concn. of reactants, effect of impurities in III, and method of isolation of I. When all other variables were kept const., the yield of I was improved by adding 3.0 moles II in 0.33 hr. as compared to 4.0 hrs., increased from about 53% to about 64% by decreasing the mole-% III from about 17 to 4, increased by lower temps. (52.4% at 0.degree., 61.2% at -30.degree., and 85.3% at -60.degree.), and unaffected when II was added to III or III added to II. These investigations led to the following incremental procedure for the prepn. of I. III (336 g.) was distd. directly into a buret; 1500 ml. anhyd. Et₂O was placed in the reaction flask, cooled to 0.degree., 1000 ml. 3N II placed in a 2nd buret, and with vigorous agitation and under N, while maintaining the temp. at 0.degree., 10 ml. portions of III and 30 ml. portions of the II added as increments. The addn. of both reagents was complete in 0.25 hr., the whole stirred 0.33 hr., 200 ml. H₂O added in 5 min. at 0.degree., the mixt. neutralized with 84 ml. H₂SO₄ in 1700 ml. H₂O at 0.degree., the Et₂O layer sepd., the H₂O layer extd. with 3 250-ml. portions of Et₂O, and the combined Et₂O solns. transferred to a 5-l. flask equipped with Hershberg stirrer, modified Claisen still-head, and dropping funnel. Part of Et₂O was distd., 1500 ml. H₂O added slowly, and distn. continued until the still head temp. reached 100.degree.. While stirring, the distilland was cooled rapidly to 11.degree. and filtered to give 277 g. I. Only traces of Ph₂BOH were obtained. Using these conditions p-ClC₆H₄MgBr gave 81% p-ClC₆H₄B(OH)₂ and 1-Cl₁₀H₇MgBr gave 68% 1-Cl₁₀H₇B(OH)₂. I was readily converted to the anhydride (IV); spectroscopically pure I was obtained by crystn. from H₂O followed by drying either by a stream of air almost satd. with H₂O or by keeping overnight in open dish at ordinary temps. in 30-40% relative humidity. I could not be recrystd. from C₆H₆ without partial conversion to IV; the m.p. could not be used as a criterion of purity. I in PhMe

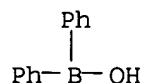
under azeotropic distn. conditions gave IV. Infrared spectra of pure I and IV were given; the bands at 1023, 1086, and 1175 cm.⁻¹ were characteristic of IV. The soly. of I in H₂O, MeOH, Et₂O, C₆H₆, xylene, CCl₄, and petr. ether and IV in C₆H₆, PhMe and xylene was shown graphically. The literature on the reaction of I was reviewed. 89 references.

L4 ANSWER 283 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1960:7244 CAPLUS
 DN 54:7244
 OREF 54:1519e
 TI Direct preparation of diphenylboric acid complexes
 AU Neu, Richard
 SO Naturwissenschaften (1959), 46, 262-3
 CODEN: NATWAY; ISSN: 0028-1042
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (amine complexes)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Various amines such as 8-hydroxyquinoline, 1-aminoethanol, and pyridine-2-carbinol react with sodium tetraphenylborate on heating in EtOH, acetone, or water to give the diphenylboric acid complex. The reaction is suggested as a possible differential test for amines.

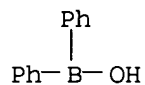
L4 ANSWER 284 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1959:118507 CAPLUS
 DN 53:118507
 OREF 53:21157i,21158a
 TI Amino alcohol esters of hydroxy boranes. II. Infrared spectra of boroxazolidines, and nitrogen-boron coordination
 AU Weidmann, Hans; Zimmerman, Howard K., Jr.
 SO Ann. (1959), 620, 4-7
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (aminoalkyl esters (cyclic form), spectra of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB cf. C.A. 53, 17144d. Infrared spectra are schematically shown for 12 compds. of amino alcs. with hydroxy boranes, covering the range, 700-1700 cm.⁻¹ The behavior of an absorption band at about 1200 cm.⁻¹ is attributed to the presence of N-B coordination in these compds. in the

solid state.

L4 ANSWER 285 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1959:94837 CAPLUS
 DN 53:94837
 OREF 53:17144d-i,17145a
 TI Boric acid esters of N-substituted amino alcohols
 AU Weidmann, Hans; Zimmerman, Howard K., Jr.
 CS A. & M. Coll. of Texas, Texas Station
 SO Ann. (1958), 619, 28-35
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (esters (cyclic form))
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

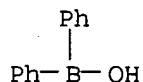


GI For diagram(s), see printed CA Issue.
 AB H3BO3 and mono- and disubstituted boric acids could be esterified just as readily with N-substituted as with unsubstituted amino alcs. In contrast to the usual trialkyl or triaryl borates which are very sensitive to H2O and undergo hydrolysis readily, the borates of N-substituted amino alcs. show greater stability which is ascribed to a N .fwdarw. B linkage with the formations of boroxazolidines (I, II, and III) or the tetrahydroboroxazine (IV). Quant. data are given for solubilities of I, II, III, and IV in dioxane, C6H6, Et2O, AcOEt, Me2CO, MeCN, H2O, and HCONH2; in most instances soly. in MeOH and EtOH was also detd. Soly. studies in aq. media indicate that a zwitterion is formed when the N .fwdarw. B bond undergoes hydrolysis. Despite their resistance to hydrolysis, I, II, III, and IV when treated with picric acid in Et2O or CHCl3 yielded, in all cases, the picrates of the corresponding amino alcs. The mechanism of this degradation was not explained. Usually I were formed by mixing the appropriate amino alc. (V) in aq. EtOH with Ph2BOH (VI) in Et2O; in 1 instance, equimolar amts. of V and VI were heated at 90.degree. in vacuo, dissolved in CH2Cl2, treated with C, filtered, evapd. and crystd. from C6H6. The following I, in which R1 and R2 = Ph, were prepd. (V, % yield, R3, R4, and R5, and m.p. of I given): HOCH2CH2NH2, 67, H,H,H, 190-2.degree.; HOCH2CH2NHMe, 50, Me,H,H, 193-5.degree.; HOCH2CH2NMe2, 84, Me,Me,H 166-7.degree.; HOCH2CH2NHet, 67, Et,H,H, 188-90.degree.; H2NCH2CHMeOH, 63, H,H,Me. From R1B(OH)2 (R1 = Ph or Bu) the following II were formed (V, R1 and R3, % yield, and m.p. given): (HOCH2CH2)2NH, Ph, H, 70, 209.5-10.degree.; (HOCH2CH2)2NMe, Ph, Me, 100, 104-7.degree.; (HOCH2CH2)2NEt, Ph, Et, 100, 96-99.degree.; (HOCH2CH2)2NH, Bu, H, 61, 153-5.degree.. N(CH2CH2OH)2 and H3BO3 were esterified under reduced pressure and treated with CH2Cl2 to give 58% IV (R1 = R2 = Ph, R3 = R4 = H), m. 190-2.degree. (50% EtOH or C6H6). The soly. of various I and II in 9:1 H2O-MeCN was a function of the pH. The min. soly. was attained at about pH 2-5; the max. at about pH 6. Potentiometric titrations of I (R1 = R2 = Ph, R3 = R4 = R5 = H) gave rise to a ppt. at about pH 6.5, which redissolved above or below this pH.

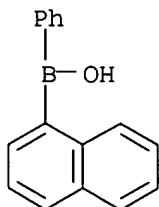
L4 ANSWER 286 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1959:72434 CAPLUS
 DN 53:72434
 OREF 53:13107d-i
 TI Organoboron compounds
 IN Letsinger, Robert L.; Skoog, Ivan H.; Remes, Nathaniel L.
 PA Callery Chemical Co.
 DT Patent
 LA Unavailable
 FAN.CNT 1

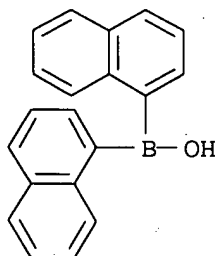
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2872479		19590203	US	
IT	2622-89-1, Borinic acid, diphenyl- (and derivs.)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



IT 13331-25-4, Borinic acid, 1-naphthylphenyl- 62981-91-3,
 Borinic acid, di-1-naphthyl-
 (prepn. of)
 RN 13331-25-4 CAPLUS
 CN Borinic acid, 1-naphthalenylphenyl- (9CI) (CA INDEX NAME)



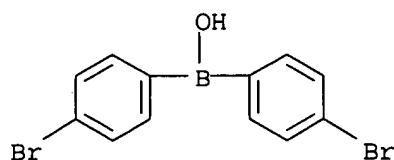
RN 62981-91-3 CAPLUS
 CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



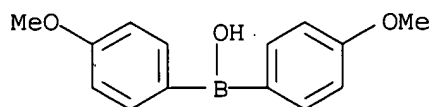
AB Dialkyl and diarylhydroxyboranes which are useful as oil additives, antioxidants, and synthesis intermediates can be prepd. in a pure state by sepg. them from mixts. as an ethanolamine or ethylene glycol deriv. and then hydrolyzing the deriv. to yield the pure borane. Thus, PhMgBr in

Et₂O (1.2M, 475 cc.) was added slowly under N to triisobutoxyborane (0.284M) in 150 cc. Et₂O. After refluxing 2 addnl. hrs. the soln. was hydrolyzed with 200 cc. 3.6M HCl. The Et₂O layer was washed and dried with CaSO₄ and then distd. Up to 150.degree./15 mm., biphenyl (0.62 g.) was recovered, m. 67-8.degree.. The remaining liquid distd. at 150-205.degree./15 mm. and triphenylborane remained as a solid. After the liquid was dild. with Et₂O, it was satd. with NH₃ to ppt. ammoniadiphenylisobutoxyborane, m. 64-7.degree. (I). I (2.13 g.) was heated with 2 cc. ethanolamine in 100 cc. PhMe, distd. until only 10 cc. remained and the residue cooled to give 1.67 g. diphenyl(2-aminoethoxy)borane (II), m. 187-8.degree.. Also, 13.7 g. I in 100 cc. EtOH and 200 cc. H₂O mixed with 6 cc. ethanolamine gave 10.91 g. II. II (5.33 g.) in MeOH and Me₂CO was acidified with HCl, H₂O added and the diphenylhydroxyborane extd. with Et₂O, dried with MgSO₄, and vacuum distd. to yield 2.11 g. bis(diphenylboryl) oxide, b1 210-13.degree., m. 104-5.degree.. Or 948 cc. PhMgBr (1.94 M in Et₂O) was added to 113 g. 4,5-dihydro-2-butoxy-2-bora-1,3-dioxole (III), the mixt. kept overnight, then hydrolyzed with 600 cc. 3.4M HCl, the Et₂O layer dried and split into 2 parts, 1 of which was added to 20 cc. BuQH in 800 cc. PhMe. On distn. at 124-60.degree./2 mm., diphenylbutoxyborane was isolated and was then treated as above. By similar techniques di(1-naphthyl)hydroxyborane, m. 105-6.degree., and di-1-naphthyl(2-aminoethoxy)borane, m. 205-6.degree., were prepd. 1-Naphthylmagnesium bromide (0.05M) was added to 11.7 g. phenyldibutoxyborane in 120 ml. Et₂O, the mixt. kept overnight, then hydrolyzed with dil. HCl, the Et₂O layer sepd., and the Et₂O evapd. To the residue was added 125 cc. EtOH, 20 cc. H₂O, and 6 cc. ethanolamine and the ppt. recrystd. (Me₂CO-H₂O) to give phenyl-1-naphthyl-(2-aminoethoxy)borane, m. 228-9.degree.. On acid hydrolysis, phenyl-1-naphthylhydroxyborane was isolated. On cleavage with ZnCl₂, H₂O₂, or Br₂, 1-HOC₈H₉, C₈H₁₀, and PhCO₂H were isolated. When 91.6 g. III was added to BuMgBr (0.636M) at -60.degree. over 4 hrs., the mixt. hydrolyzed and the Et₂O layer sepd. and added to 0.63M ethylene glycol in 1 l. PhMe, 1,2-bis(dibutylboryloxy)ethane (IV) was isolated after distn. at 133-4.degree.. IV was hydrolyzed with NaOH, Et₂O added, the H₂O layer acidified, and the Et₂O evapd. to give dibutylhydroxyborane; this on adding PhMe and distg., formed bis(dibutylboryl) oxide, b1, 102.degree.. Similarly, isopentylmagnesium bromide and III formed 1,2-bis(diisopentylboryloxy)ethane, b0.5 147-8.degree. and diisopentylhydroxyborane.

L4 ANSWER 287 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1959:23302 CAPLUS
DN 53:23302
OREF 53:4270f-i,4271a-g
TI Amine boranes. II. The preparation of pyridine diarylboranes
AU Hawthorne, M. Frederick
CS Rohm & Haas Co., Redstone Arsenal, Huntsville, AL
SO Journal of the American Chemical Society (1958), 80, 4293-6
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA Unavailable
IT 96484-29-6, Borinic acid, bis(p-bromophenyl)-
(esters)
RN 96484-29-6 CAPLUS
CN Borinic acid, bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



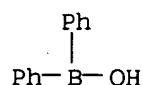
IT 73774-45-5, Borinic acid, bis(p-methoxyphenyl)-
 (prepn. of)
 RN 73774-45-5 CAPLUS
 CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

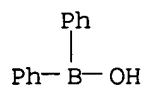


AB The low temp. reduction of Bu, Et, and H₂N(CH₂)₂ diarylborinates with LiAlH₄ in Et₂O contg. pyridine gave modest yields of pyridine diarylboranes. An attempt to prepare similarly pyridine-1-ClO₇PhBH was unsuccessful. Ph₂BO(CH₂)₂NH₂ (40.0 g.) in the min. vol. of 1:1 Me₂CO-MeOH treated with 20 cc. concd. HCl, dild. with H₂O, extd. with Et₂O, the ext. washed, dried, evapd., the oily residue dissolved in 100 g. abs. EtOH and 220 g. C₆H₆, the soln. distd. azeotropically, and the residual oil fractionated gave 26.5 g. Ph₂BOEt (I), b. 100.degree.. LiAlH₄ (5.00 g.) in 500 cc. dry Et₂O refluxed under N, the soln. cooled to -70.degree., dild. with 50 cc. pyridine, treated slowly with stirring at -70.degree. with 25 g. I in 100 cc. dry Et₂O, warmed with stirring to 0.degree., dild. with cooling with 10 cc. pyridine and 25 cc. H₂O, filtered, the residue washed with Et₂O, the combined Et₂O solns. washed, dried, evapd. at -10.degree., the cryst. residue dissolved in a small amt. of C₆H₆ at 45.degree., and the soln. dild. with a small vol. of Et₂O and then with pentane to turbidity and cooled slowly to 10.degree. yielded 15 g. Ph₂BH.C₅H₅N (II), m. 106-7.degree.. The Grignard reagent from 29 g. p-MeOC₆H₄Br in 350 cc. dry Et₂O and 12 g. Mg added slowly to 58 g. B(OBu)₃ (III) in 500 cc. Et₂O at -70.degree. under N during 3 hrs., warmed overnight with stirring to room temp., decompd. with a slight excess of HCl, the Et₂O layer worked up and distd., the distillate, b0.5 150-200.degree., (36.4 g.) dissolved in 75 cc. EtOH, the soln. treated with 15 cc. H₂N(CH₂)₂OH in 30 cc. H₂O, heated 10 min. on the steam bath, cooled, and filtered gave 10.0 g. (p-MeOC₆H₄)₂BO(CH₂)₂NH₂ (IV), m. 168-70.degree.. A small amt. of IV treated with dil. HCl gave (p-MeOC₆H₄)₂BOH, m. 107.degree.. IV (6 g.) in 50 cc. pyridine added slowly to 3.0 g. LiAlH₄ in 50 cc. Et₂O and 100 cc. pyridine under N at -70.degree., stirred 1 hr. at -20.degree., and worked up in the usual manner yielded 4.1 g. (p-MeO C₆H₄)₂BH.C₅H₅N, m. 109-10.degree. (C₆H₆-Et₂O-pentane). The Grignard deriv. from 184 g. p-ClC₆H₄Br and 24 g. Mg in 400 cc. Et₂O added slowly under N to 116 g. III in 1000 cc. dry Et₂O with stirring at -70.degree., kept overnight, decompd. with dil. HCl, worked up, the residual oil distd., the distillate (85 g.), b1 150-80.degree., dissolved in 500 cc. BuOH, and the soln. fractionated gave 29 g. p-ClC₆H₄B(OBu)₂, b0.7 118.degree., and 30 g. (p-ClC₆H₄)₂BOBu (V), b0.5 150.degree.. V (6 g.) in 50 cc. dry Et₂O treated in the usual manner at -70.degree. with 2.0 g. LiAlH₄ and 10 cc. pyridine in 200 cc. Et₂O yielded 2.2 g. (p-ClC₆H₄)₂BH.C₅H₅N, m. 103-4.degree. (C₆H₆-pentane).

Crude (p-BrC₆H₄)₂BO(CH₂)₂NH₂ (26 g.) treated with excess dil. HCl in the presence of 1000 cc. Et₂O, the Et₂O layer worked up, the oily residue distd. azeotropically with 65 g. abs. EtOH and 150 cc. C₆H₆, and the residue distd. yielded 10.5 g. pure (p-Br C₆H₄)₂BOEt (VI), b_{0.25} 160.degree.. VI (9 g.) reduced in the usual manner with LiAlH₄ in the presence of pyridine yielded 4.2 g. (crude) (p-Br C₆H₄)₂BH.C₅H₅N, m. 122-4.degree. (C₆H₆-pentane). The Grignard reagent from 171 g. p-MeC₆H₄Br and 23 g. Mg in 500 cc. Et₂O added under N at -70.degree. slowly to 115 g. III in 500 cc. Et₂O with stirring, kept overnight, and worked up in the usual manner yielded 15.3 g. p-MeC₆H₄B(OBu)₂, b_{0.6} 110.degree., and 35 g. (p-Me C₆H₄)₂BOBu (VII), b_{0.6} 138.degree.. VII (6 g.) reduced with LiAlH₄ in the presence of pyridine gave 2.6 g. (crude) (p-Me C₆H₄)₂BH.C₅H₅N, m. 110-13.degree. (C₆H₆-pentane). Ph(l-C₁₀H₇)BO(CH₂)₂NH₂ (8.0 g.) and 50 cc. dry pyridine treated at -20.degree. with 2.0 g. LiAlH₄ in 100 cc. dry Et₂O, stirred 1 hr. at -20.degree., warmed to 0.degree. dild. with 10 cc. H₂O in 20 cc. pyridine, filtered, the filtrate washed, dried, evapd., and the oily residue (about 4.0 g.) dissolved immediately with gassing in a small amt. of warm C₆H₆ and dry Et₂O and cooled to -70.degree. deposited a cryst. solid which showed both B-H and strong O-H stretch in the infrared; the material melted over an indefinite range and smelled strongly of pyridine; the enhanced instability of this borane-pyridine is possibly the result of steric crowding of the 3 large groups attached to the tetrahedral B atom. II (2.45 g.) in 10 cc. MeCN treated with 5.0 g. AgClO₄ in 2 cc. H₂O and 10 cc. MeCN, kept 2 hrs. at room temp., and filtered yielded 0.65 g. Ag. II (4.91 g.) in 60 cc. MeCN and 5 cc. H₂O refluxed gave 95% H; the soln. dild. with 300 cc. H₂O, extd. with Et₂O, and the ext. worked up yielded 4.1 g. Ph₂BOH. II (245 mg.) in 10 cc. pyridine in 4:1 pyridine-H₂O titrated with 0.020M iodine in pyridine indicated 98% purity. Pure II (12.2 g.) added to 5.3 g. pure iso-BuCl in 50 cc. dry Et₂O, refluxed 5 hrs. with stirring, cooled to room temp., filtered, treated with 200 cc. EtOH, 20 cc. H₂O, 4.0 g. 2,4-(O₂N)₂C₆H₃NH₂, and 2 cc. concd. HCl, heated 1 hr. with stirring on the steam bath, dild. with 1 l. H₂O, filtered, the residue extd. with CH₂Cl₂, the ext. concd. to 20 cc. and chromatographed on Al₂O₃, the 1st bright yellow band eluted with CH₂Cl₂, and the eluate evapd. gave 6.3 g. 2,4-(O₂N)₂C₆H₃NH₂:CHCHMe₂, m. 181-2.degree. (aq. EtOH).

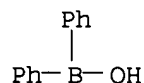
L4 ANSWER 288 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1959:6704 CAPLUS
 DN 53:6704
 OREF 53:1203i,1204a-b
 TI Preparation of bromides of organoboron compounds from esters of organoboron acids and organoboron chlorides
 AU Mikhailov, B. M.; Blokhina, A. N.; Fedotov, N. S.
 CS N. D. Zelinskii Inst. Org. Chem., Moscow
 SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1958) 891-3
 CODEN: IASKA6; ISSN: 0002-3353
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (esters, reaction with PBr₃ and PBr₅)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)





AB cf. Michaelis and Becker, Ber. 13, 58(1880). Heating 1.5 hrs. 23.8 g. Ph₂BOCH₂CHMe₂ (I) and 220 g. PBr₃ (II) with 43 g. PBr₅ (III) at 130-40.degree. until the red color had been destroyed gave 9 g. PhBBroCH₂CHMe₂, b₁₃ 115-19.degree., and 6.4 g. Ph₂BBr (IV), b₈ 150-3.degree., along with PhBr and iso-BuBr. Similarly 36.5 g. III and 18 g. Ph₂BOEt in 260 g. II gave 7 g. IV. Heating 35 min. 23.8 g. I with 43 g. III at 130-40.degree. gave 52% iso-BuOBPhBr (V), b₈ 106-10.degree., and 16.4% IV, b₈ 150-5.degree., along with iso-BuBr, PhBr, II, and POBr₃. Similarly 23.4 g. (iso-BuO)₂BPh, 240 g. II, and 43 g. III gave 41.6% V, b₉ 112-12.5.degree., d₂₀ 1.243, n_{20D} 1.5190; when II was omitted the yield was 31.4%. Passage of dry HBr into Ph₂BCl 1 hr. at room temp. gave 75% IV, b₉ 153-4.degree., d₂₀ 1.302, n_{20D} 1.6325. PhBCl₂ and HBr similarly gave in 6 hrs. 34.6% PhBBr₂, b₇ 78-80.degree., m. 31-2.degree., d₃₀ 1.698.

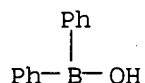
L4 ANSWER 289 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1958:113359 CAPLUS
 DN 52:113359
 OREF 52:20003a-c
 TI Back-coordination from oxygen to boron in organoboron compounds
 AU Abel, E. W.; Gerrard, W.; Lappert, M. F.; Shafferman, R.
 CS Northern Polytech., London
 SO Journal of the Chemical Society, Abstracts (1958) 2895-7
 CODEN: JCSAAZ; ISSN: 0590-9791
 DT Journal
 LA Unavailable
 IT **2622-89-1**, Borinic acid, diphenyl-
 (esters, compds. with pyridine)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Complexes were formed between compds. of the form (RO)_xBR'_y (x + y = 3) and pyridine, NH₃, EtNH₂, Et₂NH, and Et₃N. In (RO)₃B when R was CCl₃CH₂ no complexes were formed; however when R was CF₃CH₂ stable complexes were formed. While PhB(OR)₂ and Bu₂B(OR) formed stable complexes, BuB(OR)₂ did not. A theoretical discussion is given. In (RO)_xBr'_y (x + y = 3) R and R' represent the following radicals: Me, Et, CCl₃CH₂, CF₃CH₂, Pr, Bu, Ph, 2-C₆H₄Y, and 2,6-C₆H₃Y₂ where Y = Me, MeO, NO₂, and I. Tris(2,2,2-trifluoroethyl) borate, b. 43.degree./60 mm. n_{D20} 1.297, and 2,2,2-trifluoroethyl diphenylboronite, b. 90.degree./0.2 mm., n_{D20} 1.5190, d₂₀ 1.1706, were formed by allowing BCl₃ and Ph₂BCl, resp., to react with the corresponding alcohol.

L4 ANSWER 290 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1958:113351 CAPLUS
 DN 52:113351
 OREF 52:20000b-h
 TI Properties of the anhydride and esters of diphenylboronous acid

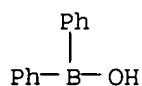
AU Abel, E. W.; Gerrard, W.; Lappert, M. F.
 CS Northern Polytech. Inst., London
 SO Journal of the Chemical Society, Abstracts (1957) 3833-8
 CODEN: JCSAAZ; ISSN: 0590-9791
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (esters)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



(prepn. of
 AB. cf. preceding abstr. The present paper reports continued investigation of Ph₂BOH and its derivs. Ph₂BY (where Y is a univalent atom or group), and the prepn. and properties of Ph₂BCl (cf. C.A. 51, 2444d), and esters, Ph₂BOR (cf. C.A. 51, 9513c). The reactions of (Ph₂B)₂O (hydrolysis with BBr₃ and PCl₅ or PBr₅) and of Ph₂BOR [hydrolysis and reactions with H, B, and P halides (Cl, Br)] are reported. Information is given about the steric course of reactions at the 1-C atom of the R chain; certain reactions of Ph₂BOR were carried out with optically active compds. The (+)-1-methylheptyl ester was used as one generally responsive to SN₂ replacement and the (+)-1-phenylethyl ester responsive to SN₁ replacement. Ph₂BOR were easily hydrolyzed by cold H₂O, NaOH, or aq. HCO₂H to Ph₂BOH. Of the 3 butyl (n-, sec-, and tert-) diphenyl boronites only the tert-Bu ester reacted with HCl to give Ph₂-BOH. (+)-Ph₂BOCHPhMe gave much racemized ClCHPhMe. HBr had no effect on the (-)-1-methylheptyl ester, but when the reactants were mixed in the liquid state (-80.degree.) reaction took place at 20.degree. under pressure and C₆H₆ and (Ph₂B)₂O were isolated instead of Ph₂BOH. BCl₃ reacted with Ph₂BOBu according to Ph₂BOR + BCl₃ .fwdarw. Ph₂BCl + ROBCl₂. A similar reaction to obtain Ph₂BCl was shown with n-C₈H₁₇OBCPh₂ and BBr₃.3ROBBr₂ .fwdarw. 3RBr + BBr₃ + B₂O₃. PBr₅ also reacted with diphenylboronites to give Ph₂BBr; Ph₂BOR + PBr₅ .fwdarw. Ph₂BBr + RBr + POBr₃. (Ph₂B)₂O was hydrolyzed by acid. With B trihalides or PX₅, the Ph₂BrX (X = Cl, Br) were obtained. With BX₃ the reaction was rapid at low temps., but with PX₅, the yields were low even at high temps. Esterification of (Ph₂B)₂O with ROH having a highly electron-releasing group involves B-O and not C-O fission. Hydrolysis of Ph₂BOR involves B-O fission since retention of configuration was observed. The reaction of Ph₂BOR with HX indicates SN₁ and SN₂ mechanisms, depending on the nature of the alkyl group. Evidence for SN₂ or SN₁ mechanisms are discussed. The ease of B-Cl fission in Ph₂BCl is of the same order as that of chloroboronates, but lower than in Cl₂BOR and BCl₃. Addnl. methods for prepn. of Ph₂BCl are given: Ph₂BOR + BCl₃ and (Ph₂B)₂O + BX₃. The spectra of Ph₂BOH, (Ph₂B)₂O, and Ph₂BOR were observed in the 650-5000 cm.⁻¹ region. In all Ph₂B compds. there is a splitting of out-of-plane C-H vibration at levels of the Ph group by about 20 cm.⁻¹ which suggests coupling of modes. The B-O stretching modes in Ph₂BOH and esters is 1325 +- 2 cm.⁻¹ In (Ph₂B)₂O two bands attributable to B-O stretching modes occur at 1262 and 1378 cm.⁻¹, which are the expected in-phase and out-of-phase modes of B-O-B grouping. Prepns. and techniques are given.

L4 ANSWER 291 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1958:113350 CAPLUS
 DN 52:113350
 OREF 52:19999f-i,20000a-b
 TI Preparation and properties of di-n-butylboronous anhydride
 AU Gerrard, W.; Lappert, M. F.; Shafferman, R.
 CS Northern Polytech. Inst., London
 SO Journal of the Chemical Society, Abstracts (1957) 3828-33
 CODEN: JCSAAZ; ISSN: 0590-9791
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (esters)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

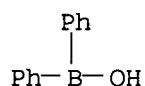


(prepn. of
 AB cf. following abstr. This is the first of a series of papers designed to outline systematically the chemistry of the dialkylboron system, R₂BY. This particular paper is concerned mainly with the chemistry of (Bu₂B)₂O (I) which was obtained in 56% yield by interaction of 2 moles BuMgBr with 1 mole BF₃-Et₂O, followed by acid hydrolysis and distn.: 2BuMgBr + BF₃ .fwdarw. Bu₂BOH .fwdarw. 1/2I (A). I was directly esterified to the boronite; (Bu₂B)₂O + 2ROH .fwdarw. 2Bu₂BOR + H₂O (B), where R was Bu, iso-Bu, sec-Bu, 1-methylheptyl, allyl and Ph; the method was not applicable for the prepn. of the tert-Bu ester. The (+)-1-methylheptyl ester was also prepd. from (+)-2-octanol with Bu₂BCl by the general-type reaction: Bu₂BCl + ROH .fwdarw. Bu₂BOR + HCl (C). The Bu ester was hydrolyzed with excess water by azeotropic distn. whereas the 1-methylheptyl ester required aq. NaOH. I was readily hydrolyzed by cold H₂O and at low pressure the reaction proved to be reversible. The Bu₂BX were formed readily by adding BX₃ (X = Cl or Br) along with the decompn. of the unstable B oxyhalide. Bu₂BCl was also obtained from PCl₅ and I. This method was found to be the superior of the two, since no decompn. of the intermediates takes place during the distn. of the chloride. Both halides formed 2:1 complexes, (C₅H₅N)₂.Bu₂BX, with pyridine. By slow addn. of an ether soln. of H₂O they give either the acid, Bu₂BOH, or I, depending on the proportions used. Heating I in excess AcOH produced the novel [Bu(AcO)B]₂O, characterized by hydrolysis with cold H₂O to BuB(OH)₂. I did not react with pyridine, Et₂NH, NH₃, SOCl₂, or HCl. Reaction (C) must have taken place without 1 R-O fission; it follows that esterification (B) did not involve R-O fission. Since hydrolysis of (+)-1-methylheptyl dibutylboronite gave (+)-2-octanol having the same rotation as the alc. used, this reaction must have involved B-O fission. The at. refractivity for B, in esters, calcd. by using Vogel's at. refractivities, was 1.95 +- 0.15, compared with 4.39 in diphenyl esters. The formation of [Bu(AcO)B]₂O is exceptional in that C-B fission results in place of B-O fission. Due to the simplicity and ease of hydrolysis, this reaction is the best available method for conversion of the boronous to the boronic system. The failure of I to form complexes is attributed to back coordination from the O atom and strong +I effect of Bu groups rather than steric hindrance. The failure of Et₂NH to cause B-O fission is in accord with previous work (cf. C.A. 51, 9476e); in contrast with the

HOAc system, B-C fission does not take place. Prepns. are given.

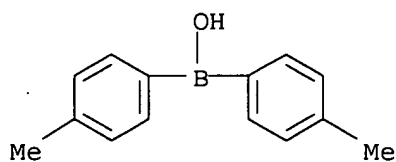
L4 ANSWER 292 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1958:108074 CAPLUS
 DN 52:108074
 OREF 52:19108h-i
 TI Additives for gasolines, lubricating oils, and electrical oils
 IN Airs, Raymond S.
 PA "Shell" Research Ltd.
 DT Patent
 LA Unavailable
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 794380		19580430	GB	
	DE 1060187			DE	
IT	2622-89-1, Borinic acid, diphenyl- (esters with amino alcs., gasoline or oils contg.)				
RN	2622-89-1 CAPLUS				
CN	Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



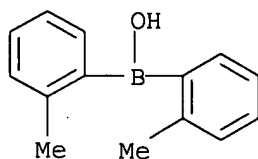
AB Scavengers to remove engine deposits caused by leaded gasolines consist of an ester of an alkanolamine and a boronic or borinic acid with at least 3 C atoms attached to B by a C-B bond. Specifically mentioned are 3-azapentamethylene phenylboronate, m. 212.degree. (decomp.); bis(2-aminoethyl) phenylboronate, m. 128.degree.; 2-aminoethyl diphenylborinate, m. 189.degree. (from aq. methylated spirits); N-hexyl-3-azapentamethylene phenylboronate, m. 96-8.degree. (from petr. ether); and diphenyl borinic ester of Priminox 43. A B-content of about 0.25 g./gal. is recommended. The additives are also useful as antioxidants in lubricants, elec. oils, fatty oils, and synthetic oils.

L4 ANSWER 293 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1958:97646 CAPLUS
 DN 52:97646
 OREF 52:17148f-i,17149a-b
 TI Organoboron compounds. XXII. Mechanism of hydrolysis of esters of diarylboric acids
 AU Mikhailov, B. M.; Vaver, V. A.
 CS N. D. Zelinskii Inst. Org. Chem., Moscow
 SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1958) 419-24
 CODEN: IASKA6; ISSN: 0002-3353
 DT Journal
 LA Unavailable
 IT 66117-64-4, Borinic acid, di-p-tolyl- 73774-44-4,
 Borinic acid, di-o-tolyl-
 (and their derivs.)
 RN 66117-64-4 CAPLUS
 CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 73774-44-4 CAPLUS

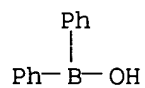
CN Borinic acid, bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



IT 2622-89-1, Borinic acid, diphenyl-
(esters and their derivs.)

RN 2622-89-1 CAPLUS

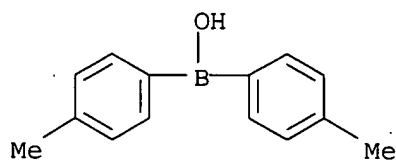
CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 66117-64-4, Borinic acid, di-p-tolyl- 73774-44-4,
Borinic acid, di-o-tolyl-
(esters, and their derivs.)

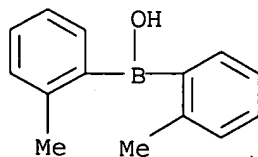
RN 66117-64-4 CAPLUS

CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



RN 73774-44-4 CAPLUS

CN Borinic acid, bis(2-methylphenyl)- (9CI) (CA INDEX NAME)



AB cf. C.A. 50, 11964c; 52, 6237h. Hydrolysis of Ar₂BOR by aq. NH₄OH proceeds through formation of ammoniates of these esters with transformation to ammonium diarylborenates. Treatment of 1 mole PhMgBr at -50.degree. with 0.45 mole (BuO)₃B and stirring 10 hrs. at -75.degree. gave after treatment with 5% HCl 46.7% Ph₂BOBu, b1 110-20.degree., d20 0.9834, n20D 1.5471. Similarly (iso-AmO)₃B gave 42% iso-AmOBPh₂, b2 128-9.degree., d20 0.9710, n20D 1.5405, and 43.5% (iso-AmO)₂BPh, b2 116-17.degree., d20 0.9221. Use of (PrO)₃B similarly gave 27% Ph₂BOPr, b5 125-6.degree., 0.9851, 1.5491, and 48.5% phenylboric anhydride, m. 187-9.degree.. All the above esters are slowly oxidized by air. (iso-BuO)₃B and p-MeC₆H₄MgBr gave similarly 19.6% iso-BuOB(C₆H₄Me-p)₂, b2.5 146-6.5.degree., 0.9630, 1.5448, and 30% p-tolylboric acid, m. 227-30.degree., and some (p-MeC₆H₄)₃B, b12 230-5.degree.. Use of .omicron.-MeC₆H₄MgBr gave some iso-BuOB(C₆H₄Me-.omicron.)₂, b1.2 135.degree., 0.9704, 1.5440, along with 55% (iso-BuO)₂BC₆H₄Me-.omicron., b3 110-12.degree., and 16.3% (.omicron.-MeC₆H₄)₃B, b2 182-4.degree.. The esters of diarylboric acids (1-2 g.) were treated in dry petr. ether with dry NH₃ yielding the corresponding ammoniates, Ar₂B(OR)NH₃ (Ar and R shown, resp.): Ph, Br, m. 104-7.degree.; Ph, Bu, m. 97-9.degree.; Ph, iso-Bu (I), m. 103-5.degree.; Ph, iso-Am, m. 99-101.degree.; p-tolyl, iso-Bu, m. 77-9.degree.; .omicron.-tolyl, iso-Bu, m. 88-90.5.degree.. To 5 ml. 30% aq. NH₄OH was added 0.66 g. (p-MeC₆H₄)₂BOCH₂CHMe 2 and after shaking 10 min. the pptd. salt was sepd. yielding 86% (p-MeC₆H₄)₂B(OH)₂.NH₄ (II), m. 89-91.degree. (C₆H₆), insol. in H₂O. Similarly was prepd. the .omicron.-tolyl analog, m. 97-100.degree.. Treatment of I with H₂O at room temp. gave Ph₂B(OH)₂.NH₄, m. 108-10.degree.. The other ammoniates hydrolyzed similarly. II in Et₂O was treated with 1:2 HCl 5 min. yielding on evapn. of the org. layer 88% (p-MeC₆H₄)₂BOH, m. 65-6.degree. (petr. ether). Similarly was prepd. the o-isomer, m. 64-6.degree.. iso-BuOB(C₆H₄Me-p)₂ in aq. EtOH was treated with H₂NCH₂CH₂OH yielding a ppt. of (p-MeC₆H₄)₂BOCH₂CH₂NH₂, m. 174-6.degree.; similarly was prepd. the o-isomer, m. 179-80.5.degree.. (p-ClC₆H₄)₂BOCH₂CHMe₂.NH₃, m. 115-17.degree.; the p-bromo analog, m. 113-15.degree..

L4 ANSWER 294 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1958:92778 CAPLUS

DN 52:92778

OREF 52:16310f-h

TI A study of the steric requirements of the 9-anthryl group and their contribution to the preparation of 9-anthrylboron compounds

AU Dodson, Vance H.; Fisher, William E.

CS Univ. of Toledo, Toledo, O.

SO Ohio Journal of Science (1958), 58, 141-4

CODEN: OJSCA9; ISSN: 0030-0950

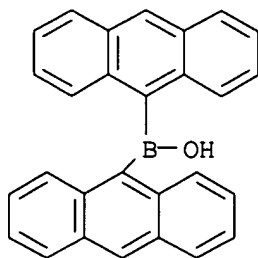
DT Journal

LA Unavailable

IT 124108-68-5, Borinic acid, di-9-anthryl-
(prepn. of)

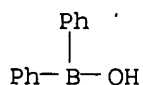
RN 124108-68-5 CAPLUS

CN Borinic acid, di-9-anthryl- (6CI) (CA INDEX NAME)



AB Tri-9-anthrylborane(I) is not formed under reaction conditions more strenuous than those which lead to the easy formation of tri- α -naphthylborane and the more difficult formation of trimesitylborane which indicates that the steric factor in the reaction is not controlling as I should have the median crowding of the B atom of these 3 compds. It is possible that π -electron repulsion on the 1 and 8 anthryl carbons may be the reason why only disubstitution of the B by aryls occurs here. Anthracene was converted to 9,10-dibromo-9,10-dihydroanthracene which was dehydrohalogenated to 9-bromoanthracene, m. 99-100.degree.. With Mg-Et₂O (II) gave 60-65% 9-anthrylmagnesium bromide (III). No I came from BF₃.Et₂O reaction with III; bright orange di-9-anthrylborinic acid (IV) was formed instead, m. 152.5.degree.. In vacuo at 120.degree., IV disproportionates to anthracene and 9-anthrylboric oxide (V), orange-brown, m. 145.degree. to brown liquid. In air at 225.degree. IV oxidizes slowly to V and anthraquinone. IV yields 9-anthrylboronic acid with hot dil. HCl, disodio-9-anthrylboronate with hot dil. NaOH, and no hydrolytic product with boiling water. Di-9-anthryl boronfluoride formed intermediately in making IV was not isolated nor characterized.

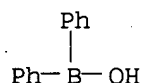
L4 ANSWER 295 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1958:87916 CAPLUS
 DN 52:87916
 OREF 52:15457g-h
 TI Dephenylation reactions of phenylboron acids and esters
 AU Abel, E. W.; Gerrard, W.; Lappert, M. F.
 CS Northern Polytechnic, London
 SO Journal of the Chemical Society, Abstracts (1958) 1451-3
 CODEN: JCSAAZ; ISSN: 0590-9791
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (esters)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



(prepn. of
 AB PhB(OH)₂ (I) 25 hrs. at 200.degree. gives C₆H₆ and HBO₂. Ph₂BOH (II) 8 hrs. at 175.degree. gives C₆H₆ and PhBO. II 20 hrs. at 175.degree. with H₂O gives C₆H₆ and H₃BO₃. C₆H₁₃CHMeOH (III) and excess C₆H₁₃CHMeOBPh₂ (IV) 12 hrs. at 200.degree. slowly form C₆H₆ and (C₆H₁₃CHMeO)₂BPh. When

approx. equal amts. of III and IV are used the product is (C₆H₁₃CHMeO)₃B. Me and Bu esters react similarly with the corresponding alcs. C₈H₁₇OBPh₂ (V) and BuOH 50 hrs. at 200.degree. give a mixt. of B(OBu)₃ and B(OC₈H₁₇)₃. EtOBPh₂ 100 hrs. at 200.degree. gives a mixt. of PhB(OEt)₂, Ph₃B, C₆H₆, and B(OEt)₃. V 130 hrs. at 340.degree. gives octene, C₆H₆, and I. PhB(OMe)₂ 100 hrs. at 200.degree. gives Ph₂B(OMe) and B(OMe)₃. Ph₂BOBu and B(OBu)₃ 100 hrs. at 200.degree. give some PhB(OBu)₂.

L4 ANSWER 296 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1958:87915 CAPLUS
 DN 52:87915
 OREF 52:15456i,15457a-g
 TI The inductive effect of alkyl groups as determined by desilylation reactions
 AU Benkeser, Robert A.; Hickner, Richard A.; Hoke, Donald I.
 CS Purdue Univ., Lafayette, IN
 SO Journal of the American Chemical Society (1958), 80, 2279-82
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (prepn. of)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB The rates of the desilylation of m-alkyl-substituted trimethyl and triethylphenylsilanes increase in the order H < Me < Et < iso-Pr < Me₃C, contrary to the decrease in rate for this series in the solvolysis of (m-alkylphenyl)dimethylcarbinyl chlorides. It is rationalized that, at least in this instance, the desilylation reactions more closely approximate conditions realized in true aromatic substitutions. The carbinyl chloride series is apparently complicated by unusual hyper-conjugative or steric effects. EtMgBr from 109 g. EtBr and 26 g. Mg in 250 cc. dry Et₂O added with stirring to 157 g. Et₂SiCl₂, b. 128.degree., in 250 cc. dry Et₂O, filtered, and distd. yielded 89 g. Et₃SiCl (I), b. 137-49.degree., n_{20D} 1.4340. m-ClC₆H₄MgBr from 7.3 g. Mg in 50 cc. Et₂O and 57.5 g. m-ClC₆H₄Br in 150 cc. Et₂O treated with 17.4 g. Me₂CO at such a rate as to maintain gentle reflux, stirred 15 min. at room temp., poured onto chipped ice, and worked up in the usual manner yielded 34.8 g. m-ClC₆H₄C(OH)Me₂ (II), b_{2.5} 86-8.degree., n_{20D} 1.5380. II (51 g.), 2 g. KHSO₄, and 0.5 g. hydroquinone distd. during 40 min., and the distillate, b₉₅ 12530.degree., dissolved in Et₂O, washed, dried, and distd. yielded 29 g. m-ClC₆H₄CMe:CH₂ (III), b₄ 60-2.degree., n_{20D} 1.5536, and 6.4 g. crude II. III (35.8 g.), 50 cc. abs. EtOH, and 0.3 g. 10% Pd-C hydrogenated about 2 hrs. at an initial pressure of 55 lb. yielded 24.8 g. m-ClC₆H₄CHMe₂, b₈ 66-8.degree., n_{20D} 1.5136. By standard methods was prepd. m-ClC₆H₄CMe₃, b₁₁ 88.degree., n_{20D} 1.5127. The appropriate m-chloro or m-bromoalkylbenzene and 0.1 mole Me₃SiCl or Et₃SiCl in 50 cc. dry Et₂O added during 15 min. with stirring to 6.5 g. Na sand in 50. cc. dry Et₂O under N, the mixt. refluxed with stirring until most of the Na had reacted, treated with cooling dropwise with 100 cc. H₂O, and worked up in the usual manner gave the corresponding m-(trialkylsilyl)alkylbenzenes.

In this manner were prepd. the following compds. m-RC₆H₄SiMe₃ (IV) (R, n₂₀D, d₂₀, b.p./mm., MRD, and % yield given): H, 1.4910, -, 169.degree./760, -, 65; Me, 1.4924, -, 190.degree./760, -, 55; Et, 1.4924, 0.8645, 206-7.degree./760, 59.88, 50; iso-Pr, 1.4894, 0.8594, 0.8597, 94.degree./14, 75; Me₃C, 1.4884, 0.8617 82.degree./6, 55, m-RC₆H₄SiEt₃ (V) (same data given): Me, 1.5022, -, 123.degree./11, -, 24; Et, 1.5015 0.8833, 125.degree./9, 73.58, 20; iso-Pr, 1.4972, 0.8902, 131.degree./9, 78.03, 15; Me₃C, 1.4956, 0.8747, 145.degree./11, 82.93, 26. An aliquot of a stock soln. of aq. HCl in glacial AcOH dild. to about 35 cc., allowed to stand overnight, added to 0.3-0.5 g. of the appropriate silane, the mixt. dild. to 50.0 cc. with glacial AcOH, and the expansion of the mixt. measured in a dilatometer gave the data for the detn. of the pseudo 1st-order rate const. of the cleavage reaction. In this manner were detd. the av. rate consts. and half-lives for the acid-catalyzed cleavage of the following IV in glacial AcOH (2.35M in HCl and 7.23M in H₂O) at 25.degree. (R of IV, av. k .times. 10³ min.⁻¹ and half-life in min. given): H, 3.84, 181; Me, 8.31, 83; Et, 8.54, 81; iso-Pr, 9.08, 71; Me₃C, 10.8, 64. The same data were detd. for the following compds. V (same data given): H, 1.64, 422; Me, 3.87, 179; Et, 4.69, 1.48; iso-Br, 5.14, 135; Me₃C, 5.90, 117. By standard methods were prepd. the following compds.: Et₃SiPh, b₉ 105.degree., n₂₀D 1.5024; m-Br-C₆H₄Ac, b₄ 96-7.degree., n₂₀D 1.5759; m-BrC₆H₄Et, b₂₀ 91.degree..

L4 ANSWER 297 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1958:25307 CAPLUS

DN 52:25307

OREF 52:4532f-h

TI Organoboron compounds. XVIII. New method of synthesis of diarylborinic acids

AU Mikhailov, B. M.; Vaver, V. A.

CS N. D. Zelinskii Inst. Org. Chem. Acad. Sci. U.S.S.R., Moscow

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1957) 989-91

CODEN: IASKA6; ISSN: 0002-3353

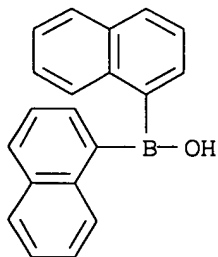
DT Journal

LA Unavailable

IT **62981-91-3**, Borinic acid, di-1-naphthyl-
(and derivs.)

RN 62981-91-3 CAPLUS

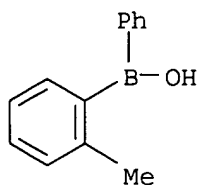
CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



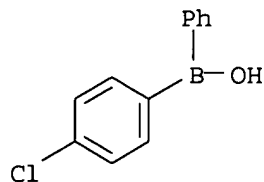
AB cf. C.A. 51, 3487c; 52, 3667h. To 0.2 mole PhMgBr was added with cooling 9 g. (iso-BuOBO)₃ in C₆H₆, the mixt. refluxed 1 hr. and treated with 200 ml. 3.5% HCl, and the org. layer, sepd. rapidly and evapd. rapidly in vacuo with min. heating, yielding on addn. of Et₂O-hexane to the residue 8.3 g. phenylboronic anhydride, m. 190-3.degree., while the mother liquor after evapn. and addn. of isopentane gave 51.6% (Ph₂B)₂O, m.

130-1.degree.. The combined distillates gave iso-BuOH and some H₃BO₃. PhMgBr treated as above with (C₆H₁₁OBO)₃ and the crude product treated with HOCH₂CH₂NH₂ gave 62% Ph₂BOCH₂CH₂NH₂, m. 190-1.degree. (EtOH). (iso-BuOBO)₃ with 1-C₁₀H₇MgBr gave similarly after treatment with 3.5% HCl 76.6% (1-C₁₀H₇)₂BOH, m. 114-15.degree.. Similar reaction of p-MeC₆H₄MgBr and treatment of the crude product with HOCH₂CH₂NH₂ gave 41% (p-MeC₆H₄)₂BOCH₂CH₂NH₂, m. 174.5-76.degree. (EtOH), along with 21.2% p-MeC₆H₄B(OCH₂CHMe₂)₂, b_{5.5} 127-8.degree., d₂₀ 0.9106, n_{20D} 1.4761. The use of 0.2 mole .omicron.-MeC₆H₄MgBr and 0.03 mole (iso-BuOBO)₃ gave after esterification of crude products with iso-BuOH 21% .omicron.-MeC₆H₄B(OCH₂CHMe₂)₂, b₃ 111-15.degree., and 42% (.omicron.-MeC₆H₄)₂BOCH₂CHMe₂, b_{2.5} 151-3.degree., 0.9701, 1.5432. The latter ester is slowly oxidized by contact with air.

L4 ANSWER 298 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1957:85554 CAPLUS
 DN 51:85554
 OREF 51:15440b-f
 TI Organoboron compounds. XV. Organoboron compounds with an asymmetric boron atom
 AU Mikhailov, B. M.; Kostroma, T. V.; Fedotov, N. S.
 CS N. D. Zelinskii Inst. Org. Chem., Moscow
 SO Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk (1957) 589-97
 DT Journal
 LA Unavailable
 IT **109846-74-4**, Borinic acid, phenyl-o-tolyl- **124422-00-0**, Borinic acid, (p-chlorophenyl)phenyl- (prepn. of)
 RN 109846-74-4 CAPLUS
 CN Borinic acid, phenyl-o-tolyl- (6CI) (CA INDEX NAME)



RN 124422-00-0 CAPLUS
 CN Borinic acid, (p-chlorophenyl)phenyl- (6CI) (CA INDEX NAME)



AB cf. C.A. 50, 11964b; 51, 1882h, 8675d. Addn. to 19.6 g. PhB(OCH₂CHMe₂)Cl in Et₂O of o-MeC₆H₄MgBr from 20.5 g. RBr gave after removal of Et₂O, addn. of isopentane, filtration, and distn. 62.1% o-MeC₆H₄BPhOCH₂CHMe₂ (I), b_{9.5} 156-9.degree., d₂₀ 0.9714 n_{D20} 1.5370; similarly, p-BrC₆H₄MgBr gave 34.7% p-BrC₆H₄(o-MeC₆H₄)BOCH₂CHMe₂, b.p. unstated, 1.1758, 1.5615. Similarly, p-ClC₆H₄MgBr gave 44.4% p-ClC₆H₄BPhOCH₂CHMe₂ (II), b₂

137-9.degree., 1.0351, 1.5432. I (26 g.) treated with 23.5 g. PCl_5 gave 67.2% o-MeC₆H₄BPhCl (IIa), b7 143-6.degree., d20 1.090; this treated with H₂O, extd. with isopentane, and thoroughly dried in vacuo gave 84.2% o-MeC₆H₄B(OH)Ph.H₂O, a liquid, which on standing gradually formed the anhydride of phenylboronic acid (III). Similarly, II gave 47% p-ClC₆H₄BPhCl, b7 135-40.degree., d20 1.145, which with H₂O gave 76% p-ClC₆H₄B(OH)Ph.H₂O, liquid, gradually changing to III on standing. Ph₂BCl and o-MeC₆H₄MgBr gave in 7 hrs. 49% o-MeC₆H₄BPh₂, b3 167-9.degree., which oxidizes in air. Similarly, IIa and p-MeC₆H₄MgBr gave (o-MeC₆H₄)BPhC₆H₄Me-p (IV), 48.4%, b2 168-70.degree.. Similarly was prepd. 49% o-MeC₆H₄B(C₆H₄Cl-p)Ph (V), b2 163-7.degree., slowly solidifying on standing. Refluxing 10 g. Ph₂BCl with o-MeC₆H₄Li from 11 g. RBr 6 hrs. in Et₂O gave 2.8 g. (o-MeC₆H₄)₂BPh₂Li and 4.7 g. o-MeC₆H₄BPh₂, b4 177-80.degree.. The latter with 1-Cl₁₀H₇Li in Et₂O gave 49% [1-Cl₁₀H₇BPh₂C₆H₄Me-o]Li, a solid, isolated as an adduct with 2 mols. Et₂O. This with satd. KCl gave [1-Cl₁₀H₇BPh₂C₆H₄Me-o]K, colorless solid. IV similarly gave [o-MeC₆H₄(p-MeC₆H₄)BPhCl₁₀H₇-1]Li.2Et₂O, which with KCl yielded the K salt, C₃₀H₂₆BK. V and 1-Cl₁₀H₇Li similarly gave 39% [o-MeC₆H₄(p-ClC₆H₄)BPhCl₁₀H₇-1]Li.2-Et₂O, solid, yielding with KCl the K salt, C₂₉H₂₃KClB, cryst. powder.

L4 ANSWER 299 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1957:71312 CAPLUS

DN 51:71312

OREF 51:12843h-i,12844a-h

TI Studies in stereochemistry. XXII. The preparation and reactions of trimesitylborane. Evidence for the nonlocalized nature of the odd electron in triarylborane radical ions and related free radicals

AU Brown, Herbert C.; Dodson, Vance H.

CS Purdue Univ., Lafayette, IN

SO J. Am. Chem. Soc. (1957), 79, 2302-6

CODEN: JACSAT; ISSN: 0002-7863

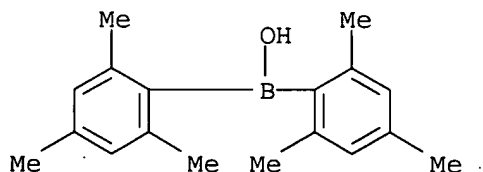
DT Journal

LA Unavailable

IT **20631-84-9**, Borinic acid, dimesityl- **62981-91-3**, Borinic acid, di-1-naphthyl- (prepn. of)

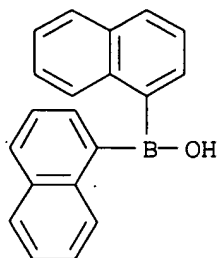
RN 20631-84-9 CAPLUS

CN Borinic acid, bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



RN 62981-91-3 CAPLUS

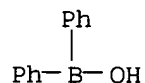
CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



AB cf. C.A. 48, 557i. Ph₃B (I) white crystals, m. 138.degree. (under N), was prepd. by the method of Krause and Nitsche (C.A. 16, 3640) and stored in sealed tubes under N. (1-C₁₀H₇)₃B (II), m. 205-6.degree. (from C₆H₆), was prepd. by the method described previously (C.A. 42, 8790g) from 1-C₁₀H₇Br, b₂₀ 146-8.degree., and dried in a stream of N. 2,4,6-Me₃C₆H₂Br (47.8 g.) in dry Et₂O added dropwise to 7.0 g. Mg and 100 cc. dry Et₂O during 1 hr. at reflux temp., the mixt. refluxed 4-5 hrs. under a stream of N, kept at room temp. overnight under N, dild. with 150 cc. dry PhMe, refluxed 0.5 hr., treated with stirring at reflux temp. dropwise with 5.1 g. Et₂O.BF₃ in 50 cc. Et₂O, dild. with 50 cc. PhMe after removal of the Et₂O, refluxed 4 hrs. with stirring, cooled to room temp., poured onto 300 cc. crushed ice and H₂O, treated with 55 cc. concd. HCl and occasionally with ice, and shaken 20 min., the org. layer washed with three 200-cc. portions cold H₂O, dried, concd. to 1/2 vol., dild. with 150 cc. 95% EtOH, and filtered, and the ppt. recrystd. from 300 cc. 95% EtOH yielded 4.5 g. (2,4,6-Me₃C₆H₂)₃B (III), m. 190.5-1.5.degree.; 2nd crop, about 2 g. Soly. of III in 100 cc. solvent at 25.degree.: 6.96 g. CCl₄, 1.25 g. Me₂CO, 0.08 g. 95% EtOH, 4.98 g. Et₂O, 16.5 g. C₆H₆: 2,4,6-Me₃C₆H₂MgBr (0.228 mole) treated during 1.5 hrs. with 0.073 mole Et₂O.BF₃, the mixt. refluxed 2 hrs., and kept 24 hrs. at room temp., the orange Et₂O layer evapd., and the residue distd. yielded (2,4,6-Me₃C₆H₂)₂BF (IV), b_{0.5} 127-9.degree., m. 75.5-6.0.degree. (sealed tube). IV treated with H₂O gave (2,4,6-Me₃C₆H₂)₂BOH, m. 140-1.degree. (from petr. ether). I and II in dry Et₂O satd. with dry NH₃ and evapd. gave I.NH₃ and II.NH₃, resp. III did not react with NH₃ under the same conditions. I and II in dry C₆H₆ could be titrated with standard NaOMe and NaOCMe₃ and phenolphthalein, while the 1st drop of alkoxide soln. added to III in C₆H₆ gave a pink color. A titrated soln. of II in C₆H₆ evapd. in vacuo left II.NaOMe white solid which turned brown at 155-60.degree. and black at 200.degree. without melting; C₆H₆ solns. of the salt shaken with 50 cc. H₂O and titrated with HCl indicated a 1:1 mole ratio of II and NaOMe; as hydrolysis products were identified C₁₀H₈ and (1-C₁₀H₇)₂BOH, m. 148-50.degree.. II.-NaOMe in C₆H₆ treated with dry HCl, heated until all HCl was removed, filtered, and evapd. to dryness gave II, m. 204-6.degree.. I (0.933 millimole) dissolved in 20.0 cc. 1-C₁₀H₇Br, evapd. to 0.5 mm., and kept under O showed the following consumption of O (time in hrs. and cc. O reacted are given): 0.25, 9.9; 0.50, 11.5; 0.75, 11.6; 1.25, 12.4; 2.25, 12.4; 24.0, 12.4. II (0.496 millimole) was treated in the same manner (time in days and cc. O reacted): 3, 7.9; 17, 11.9; 42, 12.8; 54, 13.2; 66, 13.1. III did not show O absorption under the same conditions during 15 months. Solid I and H₂O shaken intermittently during 8 hrs. at room temp. and filtered, and the pale brown residue dried in air and recrystd. from petr. ether gave PhBO, m. 201.5-2.5.degree., the aq. soln. evapd. gave a small amt. of PhB(OH)₂, m. 215.degree.. II did not react with H₂O at room temp. during 8 hrs., but refluxing with H₂O during 2.5 hrs. gave complete conversion to C₁₀H₈ and 1-C₁₀H₇B(OH)₂, m. 195.degree.. III did not react with H₂O at reflux temp. during 8 hrs. I shaken 4 hrs. at room temp. with

0.05N NaOH, the resulting soln. neutralized with dil. HCl and extd. with Et₂O, and the ext. worked up gave PhB(OH)₂, m. 215.degree.. II gave with 0.05N NaOH at room temp. during 4 days a ppt. of C₁₀H₈ and unreacted II; the aq. filtrate neutralized and extd. with Et₂O yielded a small amt. of 1-C₁₀H₇B(OH)₂, m. 195.degree.. III did not react with 0.05N NaOH during 4 days at room temp. A weighed sample of III and Na amalgam under dry N treated with dry Et₂O, sealed in a bulb, and kept at room temp. with occasional shaking for 24 hrs., the mixt. rinsed with Et₂O into H₂O, the Et₂O removed, and the aq. mixt. contg. a white ppt. titrated with standard HCl and filtered gave unchanged III; the base was assumed to be NaOH; the mole ratio of Na to III varied from 1.09:1 to 1.53:1; in a similar run the ratio was 1.9:1 after 2 months. I and II reacted with similar ease under the same conditions.

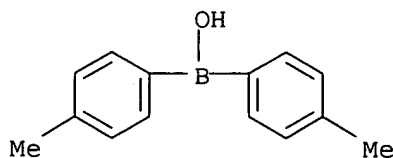
L4 ANSWER 300 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1957:51703 CAPLUS
 DN 51:51703
 OREF 51:9513c-i
 TI Preparation of esters of diphenylboronous acid
 AU Abel, E. W.; Gerrard, W.; Lappert, M. F.
 CS Northern Polytech., London
 SO J. Chem. Soc. (1957) 112-15
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (esters)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Ph₂BOH (I) and Ph₂BOBPh₂ (II) directly esterified by primary and secondary alcs. and PhOH gave alkyl and Ph diphenylboronites. Higher homologs were also obtained by alcoholysis of a lower member of the series. The procedure of widest application involved interaction of Ph₂BCl (III) with the alc., and was suitable for the prepn. of Me and tert-Bu homologs. The methods were discussed. The esterification of I was carried out on a 0.05-molar scale. I or II heated with the appropriate alc., sufficient alc. used to remove H₂O formed as an azeotrope, for lower alcs., this carried out at normal pressure, but for PhOH and higher alcs. at 20 mm., and the esters distd. under reduced pressure under N gave the following results (R in Ph₂BOR, % yield, b.p./mm., d₂₀, and n_{D20} given): Et, 80, 138.degree./10, 1.005, 1.5557; Pr, 91, 152.degree./10, 0.987, 1.5458; Bu, 93, 158.degree./9, 0.977, 1.5390; iso-Bu, 84, 153.degree./10, 0.963, 1.5276; sec-Bu, 86, 152.degree./10, 0.961, 1.5291; C₈H₁₇, 79, 155.degree./0.05, 0.950, 1.5269; 1-methylheptyl, 84, 148.degree./0.2, 0.941, 1.5196; neopentyl, 82, 114.degree./0.5, 0.965, 1.5370; Ph, 72, 140.degree./0.05, 1.084, 1.6053. The alcoholysis of Ph₂BOR was carried out at 0.05 molar scale, 3 moles of the higher boiling alcs. added to 1 mole Ph₂BOR, the mixt. slowly fractionated and the crude esters distd. at reduced pressure in N. The results were as follows (R' in Ph₂BOR', R'OH, % yield Ph₂BOR'', b.p./mm., and n_{D20} given): Et, BuOH, 89, 158.degree./9, 1.5383; Bu, C₈H₁₇OH, 83, 160.degree./0.3, 1.5247; Pr, C₆H₁₃CHMeOH, 92, 152.degree./0.5, 1.5198 ([.alpha.]_{D20} -4.17); Bu, C₆H₁₃CHMeOH, 83,

140.degree./0.05, 1.5189 ([.alpha.]D20 -4.14.degree.); Et, tert-BuCH2OH, 85, 110.degree./0.2, 1.5369; Et, PhOH, 88, 139.degree./0.05, 1.6050. III was treated with alcs. on a 0.05-molar scale. The alc. (1 mole) in 20 cc. CH2Cl2 was added during 0.5 hr. to 1 mole III in 20 cc. CH2Cl2, HCl evolved and the solvent removed in vacuo, and the crude ester distd. under N. The following results were obtained (R in Ph2BOR, % yield, b.p./mm., nD20, and dD20 given): Me, 80, 132.degree./10, 1.5709, 1.032; tert-Bu, 57, 142.degree./10, 1.5396, 0.972; C6H13CHMe, 93, 134.degree./0.001, 1.5218, - ([.alpha.]D20 -4.20.degree.); tert-BuCH2, 79, 116.degree./0.5, 1.5374, -; Ph, 83, 136.degree./0.01, 1.6062, -. III (22.23 g.) added during 15 min. to 8.23 g. tert-BuOH at 0.degree. gave no evolution of gas but formed a white ppt.; tert-BuCl (7.9 g.) was removed and trapped at -80.degree., b. 53.degree., nD20 1.3858. The residue gave 18.25 g. II, m. 114.degree.. Reversal the of order of addn. gave the same results. III (2.68 g.) added during 15 min. at 0.degree. to 0.994 g. sec-BuOH without solvent gave evolution of HCl and 2.75 g. sec-Bu diphenylboronite, b8 149.degree., nD20 1.5310. Mol. refractivities were detd. for a series of Ph2BOR. The agreement between calcd. and found values confirmed the value (Torssell, C.A. 49, 10213f) of 4.39 detd. for B in this type of compd.

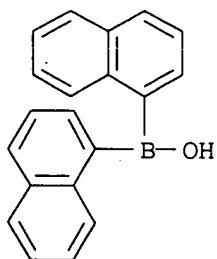
L4 ANSWER 301 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1957:17149 CAPLUS
 DN 51:17149
 OREF 51:3517e-h
 TI Aromatic boron compounds. V
 AU Neu, Richard
 CS Willmar Schwabe Firm, Karlsruhe, Germany
 SO Chem. Ber. (1955), 88, 1761-5
 DT Journal
 LA Unavailable
 IT 66117-64-4, Borinic acid, di-p-tolyl-
 (prepn. of)
 RN 66117-64-4 CAPLUS
 CN Borinic acid, bis(4-methylphenyl)- (9CI) (CA INDEX NAME)



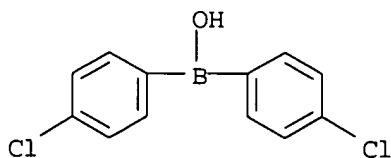
AB cf. C.A. 50, 17488f. The prepn. of diphenylborinic anhydride, (Ph2B)2O, (I) and di-p-tolylborinic anhydride (II) are described. Boric oxide (70 g.) and 350 g. of BuOH gave 238 g. of tributyl borate (III), b17 118-19.degree.. PhMgBr (from 2.4 g. of Mg and 20 g. of PhBr) in Et2O treated (ice-salt bath) with 40 g. III in Et2O gave a mixt. which after 0.5 hr. was hydrolyzed with a little ice and acidified with 3% HCl. The aq. phase was extd. with Et2O and the combined exts., with the Et2O layer from the reaction, were extd. with 2N NaOH. The residual Et2O sojn. gave 2.3 g. of biphenyl. The cooled alk. exts. were acidified with 2N H2SO4 and extd. with petr. ether (b. 44-5.degree.). The solvent was evapd. from the H2O-washed and dried exts. and the residue set aside for 2 days to give crystals which were filtered off with suction and washed with cold petr. ether. The filtrates were stripped of solvent in vacuo and steam distd. (the addn. of BaCO3 is helpful). Extn. of the distillate with

petr. ether and evapn. of the solvent from the exts. gave 1.44 g. I, m. 112-13.degree.. Using a better grade of Mg a yield of 16.2% of I was obtained. Similarly, 20% and 18.4% yields of II were obtained, m. 105-6.degree.. One expt. with p-MeC₆H₄MgBr gave a substance, m. 38-40.degree., which may be di-p-tolylborinic acid (IV) and which is converted to II by drying over H₂SO₄ in a vacuum desiccator. II and IV gave di-p-tolylmercury in almost quant. yield when treated with an aq. MeOH soln. of HgCl₂ on a small scale.

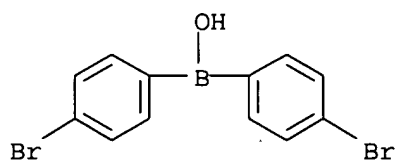
L4 ANSWER 302 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1956:64336 CAPLUS
DN 50:64336
OREF 50:11964c-h
TI Organoboron compounds. VIII. Synthesis and properties of diarylboric acids
AU Mikhailov, B. M.; Vaver, V. A.
CS N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1956) 451-6
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Unavailable
IT 62981-91-3, Borinic acid, di-1-naphthyl-
(and derivs.)
RN 62981-91-3 CAPLUS
CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



IT 89566-59-6, Borinic acid, bis(p-chlorophenyl)- 96484-29-6
, Borinic acid, bis(p-bromophenyl)-
(prepn. of)
RN 89566-59-6 CAPLUS
CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)



RN 96484-29-6 CAPLUS
CN Borinic acid, bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



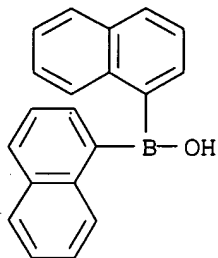
AB To 0.5 mole 1-C10H6MgBr was added at -30.degree. 0.225 mole (iso-BuO)3B and after 6-7 hrs. at -70.degree., the mixt. treated with 5% HCl, yielding on concn. of the org. layer 63% (1-C10H7)2BOBu-iso (I), m. 104-5.degree. (from hexane), after washing the residue with pentane; the wash liquid gave 15% 1-C10H7B(OBu-iso)2, b6 166-8.degree., d20 0.9777, which is hydrolyzed by atm. moisture. To 10 g. I in 20 ml. MeOH was added 15 ml. 30% NH4OH, yielding after 0.5 hr. 97.5% (1-C10H7)2B(OH)2NH4, m. 107-8.degree. (from MeOH), which decomposes rapidly in air yielding NH3, C10H8, and 1-C10H7BO2H2. If this NH4 salt in Et2O was stirred with 1:1 HCl and the org. layer evapd. after 0.5 hr., there was obtained 71.7% (1-C10H7)2BOH, m. 114.5-15.degree. (from petr. ether), which heated in vacuo gave C10H8 and 1-C10H7B(OH)2. The above acid (2 g.) refluxed 2 hrs. with 5 ml. SOCl2, concd. in vacuo and treated with C6H6-petr. ether, gave 98% [(1-C10H7)2B]2O, m. 190-2.degree.. To 0.65 mole p-BrC6H4MgBr (cf. Pink, C.A. 18, 669) was added over 0.5 hr. at -30.degree. 0.25 mole (iso-BuO)3B in Et2O and after 8 hrs. at -70.degree. the mixt. was treated with 5% HCl, the org. layer concd. and the residue esterified with iso-BuOH; distn. gave 39% (p-BrC6H4)2BOBu-iso, (II) b1 161-3.degree., and 37% p-BrC6H4B(OBu-iso)2, b1 109-10.degree., d20 1.1583. II (2.25 g.) shaken with 5 ml. 30% NH4OH gave 87.3% (p-BrC6H4)2B(OH)2NH4, m. 134-5.degree. (from C6H6). II (1.23 g.) in 3.65 ml. 0.8N KOH was slowly distd. in vacuo at 70.degree. under N giving a residue of 0.8 g. (p-BrC6H4)2B(OH)2K, crystals (from C6H6-MeOH). The NH4 salt above with dil. HCl gave 86% (p-BrC6H4)2BOH, m. 90-1.degree. (from petr. ether), which forms similarly from the above K salt. Similarly, 0.6 mole p-ClC6H4MgBr and 0.25 mole (iso-BuO)3B gave 40% (p-ClC6H4)2BOBu-iso, (III), b1 134-5.degree., d20 1.1414, and 25% p-ClC6H4B(OBu-iso)2, b1 93-5.degree., d20 1.0051; the former is rapidly oxidized in air, the latter is immediately hydrolyzed in moist air. III shaken with satd. Ba(OH)2 gave 89.5% (p-ClC6H4)2B(OH)2Ba, insol. in H2O, sol. in MeOH and EtOH. Shaken with 1:4 HCl it gave (p-ClC6H4)2B(OH)2, m. 76-8.degree. (from aq. EtOH); it is decompd. by drying in vacuo, yielding PhCl and p-ClC6H4B(OH)2. III with N NaOH gave (p-ClC6H4)2B(OH)2Na, which on acidification gave an acid, m. 70-3.degree., corresponding to (p-ClC6H4)2BOH.H2O. Cf. Konig and Scharrnbeck (C.A. 25, 927); Mel'nikov and Rokitskaya (C.A. 33, 4969.9).

L4 ANSWER 303 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1956:27736 CAPLUS
 DN 50:27736
 OREF 50:5551i,5552a-i
 TI Organoboron compounds. V. The preparation of an unsymmetrical diarylborinate
 AU Letsinger, Robert L.; Remes, Nathaniel
 CS Northwestern Univ., Evanston, IL
 SO Journal of the American Chemical Society (1955), 77, 2489-91
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA Unavailable
 IT 62981-91-3, Borinic acid, di-1-naphthyl-

(and esters)

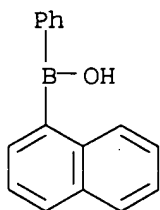
RN 62981-91-3 CAPLUS

CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)

IT 13331-25-4, Borinic acid, 1-naphthylphenyl-
(esters)

RN 13331-25-4 CAPLUS

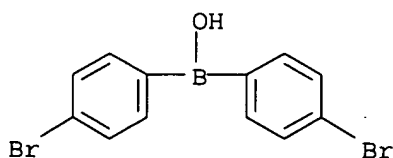
CN Borinic acid, 1-naphthalenylphenyl- (9CI) (CA INDEX NAME)

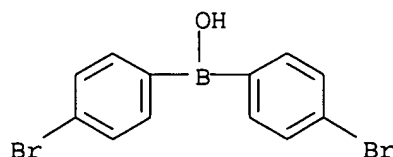


AB The prepn. and some properties of $\text{Ph}(1\text{-C}_{10}\text{H}_7)\text{BO}(\text{CH}_2)_2\text{N}_2$ (XI) and $(1\text{-C}_{10}\text{H}_7)_2\text{BO}(\text{CH}_2)_2\text{NH}_2$ (XII) are described. PhMgBr (1.05 moles) in 500 cc. Et₂O added dropwise during 1.5 hrs. with stirring to 115 g. II in Et₂O at Dry Ice temp., the mixt. left 10 hrs. to warm to room temp., hydrolyzed with dil. HCl, the Et₂O layer mixed with 250 cc. 75% EtOH and 42.7 g. V, the mixt. warmed a short time on the steam bath, and the ppt. (109 g.) recrystd. from aq. EtOH yielded 64 g. I, fine white needles, m. 190-2.degree.. $1\text{-C}_{10}\text{H}_7\text{Br}$ (207 g.) in 350 cc. Et₂O added to 29.2 g. Mg in 500 cc. Et₂O, the mixt. dild. with 300 cc. C₆H₆, added during 5 hrs. to 125 g. II in 300 cc. Et₂O at about -60.degree., allowed to stand overnight, hydrolyzed, the org. layer treated with cooling with 42.7 g. V, and the ppt. washed with 200 cc. warm 50% aq. EtOH gave 94.5 g. XII, m. 205-6.degree., purified by liberating the acid with Et₂O and HCl and treating the Et₂O layer with V. In 1 run was obtained a sample of XII, m. 191-3.degree., whose m.p. gradually increased during several weeks to 205-6.degree.; both samples became tan-colored after a few months in air. II warmed with 50% aq. EtOH-HCl, the soln. poured into ice water, and the ppt. recrystd. and dried gave $(1\text{-C}_{10}\text{H}_7)_2\text{BOH}$ (XIII), m. 105-6.degree.. XIII treated with V in aq. EtOH gave 74% XII. XIII (0.50 g.) heated 6 hrs. under N at 120-30.degree. gave 0.22 g. C₁₀H₈, m. 80-1.degree.; the residue dissolved in Et₂O, extd. with 10% aq. NaOH, and acidified yielded 0.2 g. $1\text{-C}_{10}\text{H}_7\text{B}(\text{OH})_2$, m. 194-6.degree.. $1\text{-C}_{10}\text{H}_7\text{MgBr}$ (0.049 mole) in about 20 cc. Et₂O and 3 cc. C₆H₆ added dropwise at -60.degree. to 11.70 g. $\text{PhB}(\text{OBu})_2$ (XIV), b₂ 102-5.degree., in 100 cc. Et₂O, the mixt. kept at room temp. overnight, hydrolyzed with dil. HCl, the Et₂O layer evapd., the residue treated with 125 cc. EtOH, 20 cc. H₂O, and then 6 cc. V, and the ppt. (10.1 g.) recrystd. from aq. Me₂CO gave XI, m. 228-9.degree..

1-C10H7MgBr (0.146 mole) and 0.15 mole XIV gave in a similar run 88% XI, m. 221-3.degree.. 1-C10H7B(OH)2 distd. with BuOH gave the di-Bu ester, b1 170-4.degree., nD27 1.5322; this ester (28.4 g.) treated with 392 cc. 0.097N PhMgBr in Et2O; and the mixt. worked up in the usual manner gave 24 g. XI, m. 221-2.degree.. XI (1.5 g.) shaken with Et2O and 6N HCl, the Et2O layer evapd. on the steam bath, the residue dild. with 20 cc. EtOH, then almost to turbidity with H2O, treated with 1 cc. Me2C(NH2)CH2OH in 1 cc. EtOH, filtered after 10 min., and the filter cake washed with EtOH and Et2O and dried gave 1.43 g. Ph(1-C10H7)BOCH2C(NH2)Me2 (XV), m. 199-200.degree.; the filtrate from the XV dild. with H2O gave an addnl. 0.082 g. XV, m. 195-7.degree.. (1-C10H7)2BOCH2C(NH2)Me2, m. 208-10.degree., was prepd. similarly from XII. XI (0.500 g.) shaken with Et2O and 6N HCl, the Et2O layer evapd., the residue treated with 2 cc. Me2N(CH2)2OH in 2 cc. 95% EtOH, and the mixt. warmed 10 min. on the steam bath, dild. during 5 min. (on the steam bath) with 25 cc. H2O, cooled, and filtered gave 0.200 g. C10H8, m. 79-80.degree.; the filtrate acidified and extd. with Et2O gave 0.181 g. PhB(OH)2, m. 209-15.degree.. XI (0.500 g.), treated in the same manner but at room temp., gave 19% C10H8. XI (0.500 g.) heated 10 min. on the steam bath with 2 cc. V and 2 cc. EtOH and the mixt. cooled and filtered gave 0.471 g. unchanged XI. XI (4.99 g.) treated with 25 cc. 3.3M AcOH contg. 3.2 g. NaF and 4.92 g. NaOAc, the mixt. treated during 2 hrs. with stirring and refluxing with 16.0 g. Br and 14.4 g. KBr in 50 cc. 3.3M AcOH, refluxed 0.5 hr., cooled, treated with NaHSO3, basified, steam distd. during 0.5 hr., and the distillate dissolved in 20 cc. pentane and 3 cc. Et2O, dried, and distd. gave 1.92 g. PhBr; b. 149-64.degree., nD27.4 1.5528; the higher-boiling residue (1.08 g.) combined with the org. material obtained by steam distg. the original reaction mixt. an addnl. 0.5 hr. and redistd. gave 1.8 g. 1-C10H7Br, b27 153-6.degree., nD30 1.6442; the residue recrystd. gave 0.17 g. 1,4-C10H6Br2, m. 74-6.degree.. XI (0.5 g.) in 10 cc. 50% EtOH treated with 5 cc. 30% H2O2 gave 0.1 g. 1-C10H7OH, m. 92.degree.. XI (1 g.) and 2 g. ZnCl2 in 20 cc. H2O steam distd. gave 0.28 g. C10H8; in the absence of the ZnCl2 the cleavage was very slow. XI in dil. HCl steam distd. gave only a trace of C10H8; the soln. basified gave 75% unchanged XI.

L4 ANSWER 304 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1956:27735 CAPLUS
 DN 50:27735
 OREF 50:5550i,5551a-i
 TI Organoboron compounds. IV. Aminoethyl diarylborinates
 AU Letsinger, Robert L.; Skoog, Ivan
 CS Northwestern Univ., Evanston, IL
 SO Journal of the American Chemical Society (1955), 77, 2491-4
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA Unavailable
 IT 96484-29-6, Borinic acid, bis(p-bromophenyl)-
 (prepn. of)
 RN 96484-29-6 CAPLUS
 CN Borinic acid, bis(4-bromophenyl)- (9CI) (CA INDEX NAME)

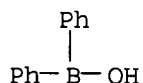




GI For diagram(s), see printed CA Issue.
 AB cf. C.A. 49, 8840d. A practical procedure has been developed for the prepn. of $\text{Ph}_2\text{BO}(\text{CH}_2)_2\text{NH}_2$ (I); this involves the reaction of PhMgBr with $(\text{BuO})_3\text{B}$ (II) at low temp., isolation of Ph_2BOBu (III) as a complex (IV) with NH_3 , and conversion of the IV to I with $\text{H}_2\text{N}(\text{CH}_2)_2\text{OH}$ (V). $(p\text{-BrC}_6\text{H}_4)_2\text{BO}(\text{CH}_2)_2\text{NH}_2$ (VI) was prepd. analogously. Solid derivs. of arylboronic acids may be obtained by esterifying them with $(\text{HOCH}_2\text{CH}_2)_2\text{NH}$ (VII). $(\text{iso-BuO})_3\text{B}$ (60.2 g.) in 150 cc. Et_2O treated at room temp. slowly with stirring with 475 cc. 1.2M PhMgBr under N, the mixt. refluxed 1 hr., stirred 2 hrs. with heating, hydrolyzed with 200 cc. 3.6M HCl , and the Et_2O layer washed, dried, and distd. gave the following fractions (b15 and wt. in g. given): 93-150.degree., 1.15; 150-5.degree., 2.00; 155-60.degree., 2.70; 160-9.degree., 16.60; 169-75.degree., 7.25; 175-205.degree., - (mainly Ph_3B); fraction 2 crystd. in the condenser and on recrystn. gave 0.62 g. Ph_2 , m. 67-8.degree.; fractions 3-5 were liquids and 6 was solid. All portions dild. with an equal vol. of Et_2O and satd. with dry NH_3 gave ppts.; fraction 2 gave, after removal of the Ph_2 , 0.75 g. ppt.; the total yield from 2-5 was 16.9 g. $\text{Ph}_2\text{BOCH}_2\text{CHMe}_2$ (VIII)- NH_3 complex, m. 64-7.degree. with evolution of NH_3 ; it decompd. rapidly in C_6H_6 at about 70.degree.; after standing several weeks it became slightly discolored (iso-BuOH odor). $\text{Ph}_3\text{B.NH}_3$ decompd. in air at about 170-6.degree.. $\text{PhB}(\text{OBu})_2$ and $\text{PhB}(\text{OPr})_2$ could not be pptd. from Et_2O with NH_3 ; the Et_2O soln. evapd. however, gave a white solid which decompd. with evolution of NH_3 at about 30.degree.. PhMgBr (0.394 mole) in 420 cc. Et_2O added very slowly to 45.6 g. II in 500 cc. Et_2O at about -60.degree., the soln. kept at room temp. overnight, treated with dil. HCl , the Et_2O layer distd., and the residue distd. with 10 cc. BuOH and 700 cc. PhMe gave the following fractions: 10.45 g., b1 70-125.degree., 28.52 g., b1 125 37.degree., and 3.08 g., b1 137-65.degree.; each fraction dild. with an equal vol. of Et_2O and satd. with NH_3 gave 2.34, 22.56, and 0.53 g. NH_3 complex, resp.; a total of 24.9 g. IV was obtained from fractions 1 and 2; fraction III gave $\text{Ph}_3\text{B.NH}_3$. The filtrates from fractions 1, 2, and 3 distd. with $(\text{CH}_2\text{OH})_2$ and PhMe yielded 10.41 g. $\text{RB.O.CH}_2\text{CH}_2\text{O}$ (IXa) (R = Ph, IX), b5 84-91.degree.; IX shaken with H_2O gave $\text{PhB}(\text{OH})_2$, m. 215-16.degree.. IXa (R = Bu) (0.92 mole) treated with 1.84 g. PhMgBr and then with NH_3 gave 49% IV and 11% IX. IXa (R = BuO) (X) (0.146 mole) and 0.292 mole PhLi gave 41% IV and 13% IX. VIII.NH₃ (2.13 g.) heated with 2 cc. V in 100 cc. PhMe , 10 cc. PhMe and its azeotropes distd. off, and the residue cooled gave 1.67 g. I, m. 187-8.degree.. VIII.NH₃ (13.70 g.) in 100 cc. EtOH and 200 cc. H_2O mixed with 6 cc. V in 6 cc. H_2O yielded 10.97 g. I, m. 189-90.degree. (from EtOH and H_2O). I (0.2321 g.) in 10 cc. MeOH and 1 cc. H_2O mixed with 0.7491 g. HgCl_2 and titrated with standard NaOH gave an equiv. wt. of 327; 0.7 g. PhHgCl , m. 252-3.degree., pptd. from the soln. I (5.33 g.) in MeOH and Me_2CO acidified with HCl , the mixt. dild. with H_2O , the borinic acid extd. with Et_2O , and the ext. dried and distd. yielded 2.11 g. $(\text{Ph}_2\text{B})_2\text{O}$, b1 210-13.degree., m. mostly at 104-5.degree.; it formed an oil with H_2O . The Grignard deriv. from 7.29 g. Mg and 40.77 g. $p\text{-C}_6\text{H}_4\text{Br}_2$ (consisting of 2 layers) added slowly with stirring to 18.38 g. X in 600 cc. Et_2O at -60.degree., and the mixt. kept at room temp. overnight, hydrolyzed, esterified, and distd. gave 7.50 g. distillate, b2

144-72.degree., 2.87 g., b2 172-91.degree., 13.23 g., b2 191-5.degree., and 2.53 g., b2 195-7.degree.; fractions 1 and 2 redistd. with (CH₂OH)₂ and PhMe gave 4.55 g. IXa (R = p-BrC₆H₄), b15 150-3.degree. m., 72-80.degree. [heated with H₂O, it gave p-BrC₆H₄B(OH)₂ (Xa), m. 254-6.degree.]; fraction 3 (11.38 g.) dissolved in N NaOH, the soln. extd. with Et₂O, acidified with HCl, again extd. with Et₂O, the ext. evapd., the residue dissolved in 500 cc. PhMe, the soln. treated with 5 cc. V, and the crude ppt. (6.95 g.) recrystd. gave VI, m. 236-7.degree.; the soln. from the acid titration (equiv. wt. 382) of VI extd. with Et₂O gave (p-BrC₆H₄)₂BOH, m. 82-4.degree. (from heptane). PhB(OH)₂ (12.20 g.), 10.84 g. VII, and 800 cc. PhMe concd. by distn. to about 400 cc., the mixt. cooled, filtered, and the filter cake washed with dry Et₂O gave 18.96 g. VII ester of PhB(OH)₂, m. 212-14.degree.; a portion (7.12 g.) dissolved in 50 cc. hot EtOH and repptd. with ligroine gave 6.10 g. pure ester, m. 214-15.degree.. Similarly were prepd. the VII esters (% yield and m.p. given) of Xa, 58, 255-6.degree., and of p-MeOC₆H₄B(OH)₂, 55, 216-18.degree.. VII (3 cc.) in 3 cc. H₂O added to 4 g. 1-C₁₀H₇B(OH)₂ in 10 cc. EtOH and 5 cc. H₂O yielded 4.94 g. VII ester, m. 242-3.degree..

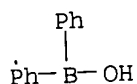
L4: ANSWER 305 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1956:16224 CAPLUS
 DN 50:16224
 OREF 50:3353e-g
 TI Alcoholysis of triarylboranes
 AU Rondestvedt, Christian S., Jr.; Scribner, Richard M.; Wulfman, Carl E.
 CS Univ. of Michigan, Ann Arbor
 SO Journal of Organic Chemistry (1955), 20, 9-12
 CODEN: JOCEAH; ISSN: 0022-3263
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (esters)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



AB Refluxing 7.15 g. tri-1-naphthylborane (I) and 2.8 g. anhyd. H₂NCH₂CH₂OH (II) 4.5 hrs. in 100 cc. anhyd. C₆H₆ gives 64% H₂NCH₂CH₂ di-1-naphthylborinate, m. 205.degree. (decompn.). Refluxing triphenylborane (III) and II 12 hrs. in a N atm. gives 68% H₂NCH₂CH₂ diphenylborinate, m. 188-90.degree. (decompn.). Refluxing 2 g. I 0.5 hr. with 100 cc. MeOH gives Me borate, C₁₀H₈, and unchanged I. Refluxing 10.8 g. III in 100 cc. MeOH 137 hrs. in a N atm. and distg. the residue of the evapd. mixt. give 5.5 cc. of an oil, b2.2 168-71.degree., m. 60-75.degree.; this, in petr. ether satd. with NH₃, gives a compd., C₁₈H₁₈BNO, m. 152-3.degree., which seems to be Ph diphenylborinate-NH₃. In a similar expt., 1 mole C₆H₆ is liberated with the formation of 34% triphenylboroxene, B₃O₃Ph₃ (IV), m. 214-16.degree.. In another expt. when the residue, after removal of the MeOH, is treated in petr. ether with NH₃, Me diphenylborinate-ammonia contaminated with IV or Me benzenboronate is obtained. I and AcOH under various conditions give triacetoxyborane, C₁₀H₈; and I. I and HBr in C₆H₆ boiled 45 min. give 0.95 g. C₁₀H₈, 0.54 g. unchanged I, and 0.46 g. 1-naphthaleneboronic acid.

The cleavage is discussed in terms of electron-release in the transition state.

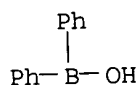
L4 ANSWER 306 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1956:16223 CAPLUS
 DN 50:16223
 OREF 50:3353a-e
 TI Studies in the naphthalene series. I. Synthesis of 3-amino-1-naphthoic acid
 AU Vondracek, M.; Vecerek, B.
 CS Karlova Univ., Prague
 SO Chemicke Listy pro Vedu a Prumysl (1955), 49, 772-5
 CODEN: CLPRAN; ISSN: 0366-6832
 DT Journal
 LA Unavailable
 IT 2622-89-1, Borinic acid, diphenyl-
 (esters)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



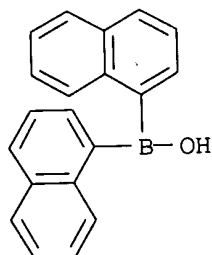
AB A new synthesis has been worked out for 3-amino-1-naphthoic acid (I) giving an over-all yield of approx. 28%. Refluxing 30 min. a mixt. of 200 g. 1-naphthylamine, 140 ml. Ac₂O, and 100 ml. AcOH, adding portionwise 1100 ml. AcOH, cooling to 20.degree., treating the mixt. at 20.degree. with 220 g. Br in 400 ml. AcOH, stirring the white suspension of the Br deriv. 30 min., heating it up to 55.degree., and treating with 141 ml. HNO₃ (d. 1.42) during 2 hrs. at 70.degree. gave 100 g. 1-bromo-3-nitro-4-acetonaphthalide (II), m. 228.degree.; another 100-g. portion of II was obtained from the mother liquor (total yield 50%). Heating 50 g. 4-bromo-1-acetonaphthalide, 18 g. CuCN, and 16 g. anhyd. C₅H₅N in the oil bath to 160.degree., and maintaining the reaction temp. by heating or cooling at 180-90.degree. 90 min., triturating the melt after cooling with 250 ml. concd. NH₄OH, and crystg. the product from EtOH gave 29 g. 1-cyano-4-acetonaphthalide (III), m. 189.5.degree. (from EtOH). Nitration of 10 g. III with 4 ml. HNO₃ (d. 1.5) while heating to 95.degree. yielded 10 g. 1-cyano-3-nitro-4-acetonaphthalide (IV); m. 270.5.degree. (from AcOH). Refluxing IV (10 g.) 3 hrs. with 140 ml. AcOH and 50 ml. HCl gave 85-90% 1-cyano-3-nitro-4-aminonaphthalene (V), m. 239.5.degree. (from AcOH). Adding a suspension of V in 200 ml. AcOH to a soln. of 8.2 g. NaNO₂ in 55 ml. concd. H₂SO₄, stirring the mixt. below 20.degree. 30 min., treating the mixt. during 30 min. portionwise with 30 g. Cu₂O, and pouring the mixt. after 45 min. into 1 l. H₂O gave 69% 1-cyano-3-nitronaphthalene, m. 183.degree. (from EtOH) (VI). The same deriv. was obtained by heating 2 hrs. at 170.degree. a mixt. of 1 g. 1-bromo-3-nitronaphthalene, 0.4 g. CuCN, and 0.4 ml. anhyd. C₅H₅N; yield of VI 65-70%. Hydrolysis of 4 g. of VI by refluxing 3 hrs. with a mixt. of 50 ml. H₂O, 50 ml. H₂SO₄, and 50 ml. AcOH gave 97% 3-nitro-1-naphthoic acid, m. 265.degree. (from EtOH). Hydrogenation over PtO₂ in EtOH gave I, m. 179.degree. (from EtOH) (blue fluorescence); sulfate, sparingly sol. in H₂O.

L4 ANSWER 307 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1955:46053 CAPLUS
 DN 49:46053
 OREF 49:8840d-f
 TI Aminoethyl diarylborinates; isolation of a stable unsymmetrical organoboron compound
 AU Letsinger, Robert L.; Skoog, Ivan; Remes, Nathaniel
 CS Northwestern Univ., Evanston, IL
 SO Journal of the American Chemical Society (1954), 76, 4047-8
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA Unavailable
 IT **2622-89-1**, Borinic acid, diphenyl- (and esters)
 RN 2622-89-1 CAPLUS
 CN Borinic acid, diphenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



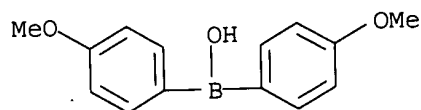
IT **62981-91-3**, Borinic acid, di-1-naphthyl- (prepn. of)
 RN 62981-91-3 CAPLUS
 CN Borinic acid, di-1-naphthalenyl- (9CI) (CA INDEX NAME)



AB Arylborinic acids can be isolated and characterized as their aminoethyl esters. The appropriate Grignard reagent (2 moles) treated with 1 mole of butylethylene borate or Bu borate and the product hydrolyzed with dil. HCl yielded the acids. Bu diphenylborinate was sepd. from Ph₃B by distn. and from Bu benzenboronate (I) by pptn. from Et₂O with NH₃. The NH₃ complex, m. 64-7.degree., isolated in 48% yield, was converted in 80-90% yield to aminoethyl diphenylborinate, m. 189-90.degree.. Pptn. from a PhMe soln. yielded 45% aminoethyl di-.alpha.-naphthylborinate, m. 192-3.5.degree.. Acid hydrolysis of these esters yielded diphenylborinic acid, an oil, and .alpha.-naphthylborinic acid, m. 105-6.degree.. C₁₀H₇MgBr (0.049 mole) and 0.05 mole I in Et₂O at -60.degree. yielded 10.1 g. aminoethyl phenyl-.alpha.-naphthylborinate, m. 228-9.degree..

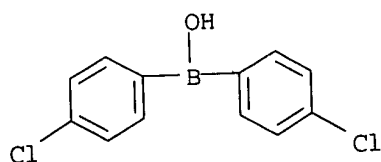
L4 ANSWER 308 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1952:58396 CAPLUS
 DN 46:58396
 OREF 46:9766e-h
 TI Investigations of the insecticide action of organic compounds. VI
 AU Beran, F.; Prey, V.; Bohm, Helen

CS Tech. Univ., Vienna
 SO Mitt. Chem. Forsch.-Inst. Wirtsch. Osterr. (1952), 6, 54-6
 DT Journal
 LA Unavailable
 IT **73774-45-5**, Borinic acid, bis(p-methoxyphenyl)-
 (as insecticide)
 RN 73774-45-5 CAPLUS
 CN Borinic acid, bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



AB cf. C.A. 46, 8802c. Org. B compds. were investigated for their action on Calandra granaria, Tenebrio molitor, Musca domestica, and Carausius morosus. While B compds. in which B is linked to C by O show no effect whatever, aromatic boric acids in which B is linked directly to C are excellent insecticides. No insecticides were found among different aliphatic compds. by the same method except among the malonic acid esters (loc. cit.). The following substances were tested, and their structural formulas, mol. wt., b.p., m.p., soly., and action by contact or vapor are tabulated: maleic acid-boric acid, boric acid-succinic acid anhydride, boric acid stearate, boric acid phthalate, boric acid dodecyl ester, phenylboric acid, m-chlorophenylboric acid, p-bromophenylboric acid, p-methoxyphenyl boric acid, bis(p-methoxyphenyl)boric acid, 1-naphthylboric acid, benzylboric acid, cyclohexylboric acid, trichloroethanol, 2,3,3-tribromobutyl alc., tris(hydroxymethyl)nitromethane, 3,3,3-trichloro-1-nitro-2-propanol, ClCH₂CH(OH)CH₂OH, chloral urethan, chlorosulfo hydrate, Ac₂, acetylacetone, acetonylacetone, cyclopentanone, Cl₃CCO₂Et, malonic acid Et ester, (EtO₂C)₂CHBr, (EtO₂C)₂CBr₂, di-Et trichloroethylidenemalonate, (MeO₂C)₂, oxaloacetic ester, (EtO₂CCH₂)₂, levulinic acid, dichloroacetamide, thioacetamide, adipinic acid dinitrile, and 1,3-dichloro-2-chloromethyl-2-nitropropane.

L4 ANSWER 309 OF 309 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1939:35170 CAPLUS
 DN 33:35170
 OREF 33:4969i,4970a-e
 TI Organic boron compounds. III. Synthesis of aryl- and diarylboric acids
 AU Mel'nikov, N. N.; Rokitskaya, M. S.
 SO Zhurnal Obshchei Khimii (1938), 8, 1768-75
 CODEN: ZOKHA4; ISSN: 0044-460X
 DT Journal
 LA Unavailable
 IT **89566-59-6**, Borinic acid, bis(p-chlorophenyl)-
 (prepn. of)
 RN 89566-59-6 CAPLUS
 CN Borinic acid, bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)



AB cf. C. A. 33, 4908.7. The method of König and Scharnbeck (C. A. 25, 927) is used again in the prepn. of aryl- and diarylboric acids from the corresponding Mg compds. and iso-Bu borate in Et₂O. All these compds. are cryst. white substances, fairly sol. in org. solvents and sparingly sol. in H₂O. When stored over dehydrating agents, these acids form anhydrides. 2,5-MeClC₆H₃B(OH)₂ (I) (from 4,2-ClBrC₆H₃Me), m. 184-6.degree.. 4,2-MeBrC₆H₃B(OH)₂ (from 3,4-Br₂C₆H₃Me), m. 157.degree.. p-EtC₆H₄B(OH)₂ (from p-EtC₆H₄Br), m. 108-11.degree.. p-PhCH:CHB(OH)₂ (from omega.-bromostyrene), m. 138-41.degree.. Biphenylboric acid (from bromobiphenyl), m. 185-90.degree.; as a by-product there is formed a little of dibiphenylboric acid, does not m. 300.degree.. 2,4,5-Me₂BrC₆H₂B(OH)₂ (from 4,6,1,3-Br₂C₆H₂Me₂), m. 206-11.degree.. 2,4,5-Me₂ClC₆H₂B(OH)₂ (from 4,6,1,3-BrClC₆H₂Me₂), m. 155-7.degree.. 4,5-MeClC₆H₃B(OH)₂ (from 2,4-ClBrC₆H₂Me), m. 242-7.degree.. (p-ClC₆H₄)₂BOH, m. 75.degree.., formed as a by-product in the prepn. of p-ClC₆H₄B(OH)₂ (loc. cit.). (2,5-MeClC₆H₃)₂BOH, m. 81.degree.., is obtained as a by-product in the prepn. of I. p-ClC₆H₄CH₂B(OH)₂ (from p-ClC₆H₄CH₂Br), m. 140.degree.. The arylboric acids react with TlCl₃ and TlBr₃ to give Ar₂TlX, which by interaction with Tl halides in H₂O form ArTlX₂ (X = Cl or Br) (cf. C. A. 30, 2182.9). The following new compds. were prepd. (2,4,5-Me₂BrC₆H₂)₂TlCl, decomp. 268.degree.. (2,4,5-Me₂ClC₆H₂)₂TlCl, decomp. 248.degree.. (4,5-MeClC₆H₃)₂TlCl, decomp. 260.degree.. (2,5-MeClC₆H₃)₂TlCl, m. 238.degree.. (4,2-MeBrC₆H₃)₂TlCl, decomp. 223.degree.. (p-EtC₆H₄)₂TlCl, decomp. 260.degree.. (m-Me₂C₆H₃)₂TlBr, m. 196.degree.. (2,4,5-Me₂BrC₆H₂)₂TlBr, decomp. 220.degree.. (2,4,5-Me₂ClC₆H₂)₂TlBr, m. 190-5.degree.. (4,5-MeClC₆H₃)₂TlBr, decomp. 290.degree.. (4,2-MeBrC₆H₃)₂TlBr, m. 253.degree.. (2,5-MeClC₆H₃)₂TlBr, m. 200.degree.. (p-EtC₆H₄)₂TlBr, decomp. 280.degree.. The above compds. were obtained in 60-95% yields, forming white cryst. substances. MeBrC₆H₃TlCl₂, m. 174-7.degree.., EtC₆H₄TlCl₂, decomp. 155.degree.., and alpha.-ClO₇H₇TlCl₂, m. 144.degree.., are white cryst. compds. 2,4,5-Me₂BrC₆H₂TlBr₂, m. 192.degree.., and 2,4,5-Me₂ClC₆H₂TlBr₂, m. 185-90.degree.., are yellow cryst. compds. The following compds. form orange crystals. 4,5-MeClC₆H₃TlBr₂, m. 185-8.degree.. MeClC₆H₃TlBr₂, m. 182.degree.. MeBrC₆H₃TlBr₂, m. 180.degree.. p-EtC₆H₄TlBr₂, m. 170.degree.. Me₂C₆H₃TlBr₂, m. 215.degree.. alpha.-ClO₇H₇TlBr₂, m. 185.degree.. The above compds. were formed in 33-84% yields.

=> log y
COST IN U.S. DOLLARS

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

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SINCE FILE ENTRY	TOTAL SESSION
1468.22	1616.79

SINCE FILE ENTRY	TOTAL SESSION
-200.51	-200.51

Patel

9/24/2003>